AIR QUALITY AND METEOROLOGICAL NETWORK AT MIDNITE MINE SUPERFUND SITE, STEVENS COUNTY, WA

QUARTERLY MONITORING REPORT NO. 12
THIRD QUARTER 2019

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1.0 INTRODUCTION

As specified in the Midnite Mine Superfund Site (site) Dust Control and Air Quality Monitoring Plan, Revision 1 (DCAQMP; Bison Engineering, January 2016), an ambient air quality / meteorology monitoring report will be submitted within 45 days after the end of each calendar quarter. This report is being submitted for the monitoring performed during the third quarter of 2019 from July 1 through September 30, 2019.

During the week of May 17-20, 2016, a meteorological station and an ambient particulate (TSP) monitoring network were installed at Midnite Mine (site) by Bison Engineering, Inc. (Bison). The meteorological station began collecting data on May 20, 2016 while the TSP network was activated in conjunction with site grading and remediation activities on May 23, 2016. The purpose of the air monitoring network is to provide an additional measure of protection from potential airborne contaminants for the downwind community and the public in general. The network is not intended for use in establishing compliance with ambient standards, nor as a substitute for any required health and safety monitoring. The pre-set air quality thresholds have been established and are presented in the DCAQMP. The network monitors air quality and provides an alert to the remediation team in the event that air quality thresholds are exceeded. Alerts will trigger investigation and if the alert is found to be the result of elevated airborne dust concentration, the application of further dust control measures can be implemented as appropriate. Routine (i.e., daily) operation of the monitoring network is performed by the Construction Quality Assurance (CQA) contractor (AJAX), while data reporting and quality assurance is performed by Bison.

2.0 MONITORING NETWORK DESCRIPTION

The network includes the components described in the following paragraphs:

Fixed TSP Monitoring Sites: Three Met One E-Sampler® continuous monitors for the measurement of total suspended particulates (TSP) are located around the perimeter of the site, as shown in Figure 1. They were sited to measure TSP concentrations near the Mine Area fenceline, with the objective of alerting site personnel to potential off-site exposure to airborne dust. The samplers were located such that at least one location would typically be upwind, and one downwind, from any construction activities at the site. Additional rationale for locations of the fixed monitors is provided in the DCAQMP. The locations of the fixed TSP monitors are described in the weekly Construction Quality Control (CQC) reports.

Roving TSP Monitoring Sites: In addition to the fixed monitoring locations, as many as three roving TSP monitors may be deployed to monitor impacts from remediation activities, such as excavation, grading, and stockpiling of excavated soils. In general, the monitors are installed within 50 to 100 yards immediately downwind from the areas disturbed by construction / remediation activities, with the objective of monitoring maximum concentrations to which on-site workers may be exposed. The locations of the roving TSP monitors are described in the weekly Construction Quality Control (CQC) reports.

Meteorological Monitoring Site: A fixed 10-foot meteorological tower presently is located near the center of the site in a relatively level area exposed to the prevailing winds. Originally it was located near the site's southwestern boundary, but the tower was moved in 2018 because of impending earthwork at the original site. The current location is shown in Figure 1. Measurements include wind direction and speed, temperature, relative humidity, solar radiation and precipitation. The meteorological data is used to help determine whether any elevated particulate episodes are directly related to the site construction / remediation activities, or whether they are associated with off-site sources such as wildfire smoke and agricultural activities. Additionally, the meteorological data are used to help identify false elevated TSP readings caused by fog.

Data Communication and Alarming System: A critical feature of the monitoring network is the data communication and alarming system, which alerts on-site personnel to elevated levels of airborne particulates. Data from all TSP samplers and from the meteorological station are continuously transmitted to a base station located on-site in the office trailer complex. It had been located at the decontamination station until August 1, 2019, when it was moved for ease of access and to eliminate possible environmental hazards from decontamination station activities (e.g. filling water trucks). Whenever an alarm occurs, the real-time meteorological data and site conditions are investigated to determine whether the elevated particulate levels are associated with site activities or another source (e.g., wildfire smoke/local prescribed burns, fog or other weather-related event). The particulate alarm levels were calculated to address concerns that site remediation activities could result in airborne emissions of potentially hazardous

concentrations of contaminants of concern (COCs) as described in the DCAQMP. After determining that manganese had the most restrictive TSP threshold concentration (3854 µg/m^3), that value was divided by 10 to provide an additional safety factor resulting in a trigger value of 385 µg/m^3. Because the historical 24-hour TSP standard (which was superseded by PM_{10} and $PM_{2.5}$ standards) had been 260 µg/m^3, the trigger/alarm value for the site was further reduced to that value. The DCAQMP presents a detailed discussion of the historical sampling data and rationale used to establish the TSP trigger level.

Analysis of Exposed TSP Filters for Particulate Mass: The E-Sampler measurement is essentially an optical method which correlates the visual opacity of the sampled air to the airborne particulate concentration within that air. The relationship (which is site-specific) must be determined empirically by collecting particulate matter on a filter during sampling and comparing 1) the average TSP concentration calculated from the particulate mass, and 2) the average TSP concentration reported by the E-Sampler. The ratio of those averages is then entered into the E-Sampler's software to adjust its measurements going forward.

Based on Bison's previous experience, the E-Samplers were initially deployed with an assumed calibration factor of 3.00. A filter test was initiated at the start of sampling in May 2016 to empirically determine appropriate calibration factors. Results were used to adjust the E-Samplers' calibration coefficients on August 31, 2016, as discussed in Section 3.0.

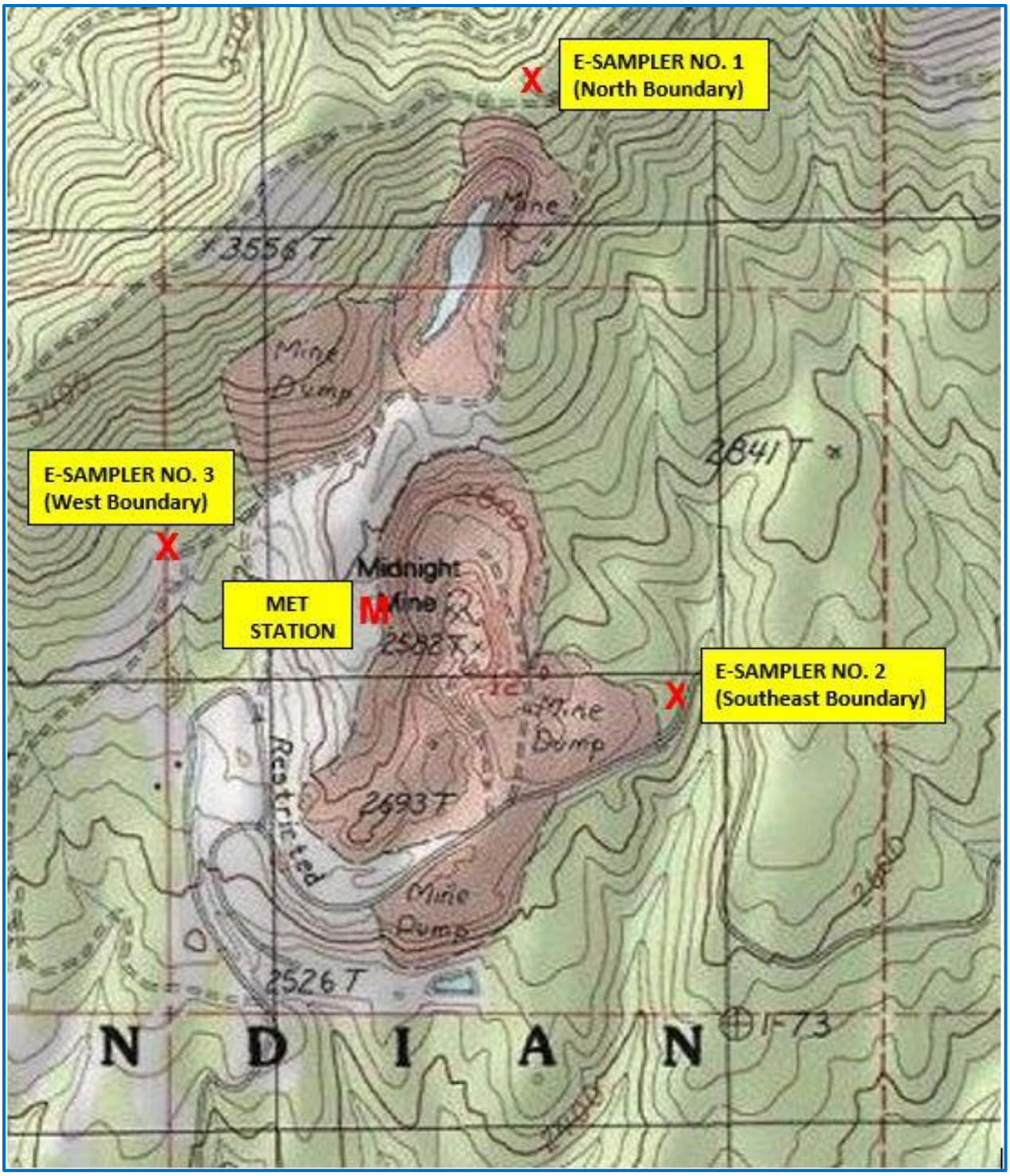


Figure 1: Overview of Fixed TSP / Meteorological Monitors in 2019

3.0 SUMMARY OF CURRENT MONITORING ACTIVITIES

During the third quarter of 2019, continuous TSP monitoring was performed at the three fixed sites during all work hours. Work hours were 0600 to 0230 (on the following day) local time because the site was working double shifts. Additional TSP monitoring was performed by as many as three roving samplers during those same periods. The roving samplers were relocated whenever work locations moved to make sure that potential emissions specific to ongoing remediation activities were reliably monitored. In general, the monitors remained within 50 -100 yards of active work areas as described in the daily and weekly CQA reports.

Clean Teflon filters were installed in the samplers at the start of monitoring (May 20, 2016) and were removed on June 21 and June 22, 2016. The exposed filters were submitted for gravimetric analysis of total particulate, and the results were used to calculate empirical TSP correction factors for the three fixed perimeter samplers and the five roving samplers. That analysis was presented in a separate topical report (***Determination of Calibration Factors for E-Sampler Particulate Monitors at the Midnite Mine Superfund Site***) issued in August 2016. On August 31, 2016 an empirical correction factor of 4.92 was programmed into the three fixed samplers, while a factor of 8.05 was programmed into the five roving samplers. Those calibration factors were used throughout the third quarter of 2019.

Appendix A presents a summary of monitoring dates and locations for each of the eight E-Samplers.

4.0 SUMMARY OF HOURLY DATA FOR CURRENT PERIOD

TSP data for the Midnite Mine site are summarized in the following tables, and the majority reflect site activities. During the third quarter of 2019 smoke impacts were limited to approximately one week in early August, when the site was affected by the Williams Flats fire on the Colville Indian Reservation. Additionally, several periods of false elevated TSP concentrations caused by rain and fog events occurred in September.

Tables 1a through 1c summarize the monthly average and maximum one-hour TSP readings reported by the E-Samplers in the third quarter of 2019 but exclude periods that were reported / suspected to have been impacted by wildfire smoke. False elevated TSP readings caused by rain or fog were also excluded from analysis. Table 2 presents the same statistics for the third quarter overall. The highest quarterly average TSP concentration, 32 µg/m^3, occurred at E-Sampler No. 7, which was deployed in the southwestern part of Area 5. The other monitors had quarterly average TSP concentrations ranging from 10 to 25 µg/m^3. The highest monthly average TSP concentration, 42 µg/m^3, occurred at E-Sampler No. 7 in August.

Tables 1a through 1c also present the wind speed, wind direction, monitoring location and date/time of occurrence for each monitor's average and hourly maximum reading in each month; Table 2 presents that same information for the entire quarter. Note that this analysis is based on valid TSP data measured over ***block*** hours (e.g., between 1001 and 1100 PST) during periods not dominated by wildfire smoke. The meteorological conditions associated with these maximums varied considerably. Wind speeds were generally light, and from a variety of directions.

Table 3 summarizes the TSP data from periods when the site was impacted by wildfire smoke. The average concentrations during those periods at least four times those from the non-smoke periods, ranging from 82 µg/m^3 at E-Sampler No. 3 to 208 µg/m^3 at E-Sampler No. 7. Maximum hourly concentrations exceeding the 260 µg/m^3 TSP trigger level were observed at all monitors. During the most extreme smoke periods in early August monitors were shut down, since they would have registered constant TSP alarms for many hours and would have provided no useful information regarding the need for dust control. A complete tabulation of hourly TSP concentrations and meteorological conditions measured during site construction activities is presented in Appendix B. Periods impacted by wildfire smoke are shaded gray, while false elevated TSP periods due to fog and/or rain are shaded blue.

Temperatures were near normal in July and September and above normal in August, based on long-term averages from the Spokane airport. Precipitation was near normal in July and August, but nearly three times normal in September. Site conditions were often wet in September, which limited or precluded remediation activities on several days. A rare snowfall occurred at the end of September.

Table 1a: TSP Data Statistics for July 2019[1]

Monitor ID	Avg. TSP (µg/m³)	Max. Hourly TSP (µg/m³)	Date and Time	Location	WS/WD
ES-1 (fixed)	11	60	07/30 1400 PST	MMSS North Boundary	4.8 mph 203°
ES-2 (fixed)	12	52	07/26 1900 & 2000 PST	MMSS Southeast Boundary	3.1 /1.2 mph 268° / 279°
ES-3 (fixed)	10	33	07/03 1800 PST	MMSS West Boundary	3.4 mph 234°
ES-4	23	94	07/15 2100 PST	Top of Stockpile 3	2.5 mph 16°
ES-5[2]	N/A	N/A	N/A	N/A	N/A
ES-6	25	136	07/09 0000 PST	E of Pit 4 above Area 5	1.5 mph 290°
ES-7	32	415	07/12 1300 PST	SW Corner of Area 5	5.0 mph 190°
ES-8[2]	N/A	N/A	N/A	N/A	N/A

[1]Excludes high-TSP periods dominated by local or regional smoke; those data are summarized in Table 3. Also excludes false elevated readings caused by rain and/or fog.
[2]Sampler not used during month

Table 1b: TSP Data Statistics for August 2019[1]

Monitor ID	Avg. TSP (µg/m³)	Max. Hourly TSP (µg/m³)	Date and Time	Location	WS/WD
ES-1 (fixed)	14	42	08/21 1100 PST	MMSS North Boundary	5.0 mph 189°
ES-2 (fixed)	15	44	08/29 1600 PST	MMSS Southeast Boundary	5.3 mph 176°
ES-3 (fixed)	14	41	08/21 1100 PST	MMSS West Boundary	5.0 mph 189°
ES-4	35	115	08/21 1300 PST	East of the Mid-Waste Rock Pile	6.0 mph 189°
ES-5[2]	N/A	N/A	N/A	N/A	N/A
ES-6	29	83	08/21 1100 & 1600 PST	E Side of Pit 4	5.0 / 4.6 mph 189° / 265°
ES-7	42	112	08/09 0800 PST	SW Corner of Area 5	3.2 mph 228°
ES-8[2]	N/A	N/A	N/A	N/A	N/A

[1]Excludes high-TSP periods dominated by local or regional smoke; those data are summarized in Table 3. Also excludes false elevated readings caused by rain and/or fog.
[2]Sampler not used during month

Table 1c: TSP Data Statistics for September 2019[1]

Monitor ID	Avg. TSP (µg/m^3)	Max. Hourly TSP (µg/m^3)	Date and Time	Location	WS/WD
ES-1 (fixed)	6	23	09/25 2100 PST	MMSS North Boundary	3.2 mph 198°
ES-2 (fixed)	7	23	09/25 2200 PST	MMSS Southeast Boundary	4.6 mph 184°
ES-3 (fixed)	7	44	09/19 0800 PST	MMSS West Boundary	1.1 mph 214°
ES-4	18	82	09/05 2000 PST	East of the Mid-Waste Rock Pile	2.4 mph 4°
ES-5[2]	N/A	N/A	N/A	N/A	N/A
ES-6	13	43	09/04 1900 PST	E Side of Pit 4	1.2 mph 306°
ES-7	21	123	09/06 0000 PST	SW Corner of Area 5	3.3 mph 315°
ES-8[2]	N/A	N/A	N/A	N/A	N/A

[1]Excludes high-TSP periods dominated by local or regional smoke; those data are summarized in Table 3. Also excludes false elevated readings caused by rain and/or fog.
[2]Sampler not used during month

Table 2: TSP Data Statistics for Quarter 3, 2019[1]

Monitor ID	Avg. TSP (µg/m^3)	Max. Hourly TSP (µg/m^3)	Date and Time	Location	WS/WD
ES-1 (fixed)	10	60	07/30 1400 PST	MMSS North Boundary	4.8 mph 203°
ES-2 (fixed)	11	52	07/26 2000 PST	MMSS Southeast Boundary	1.2 mph 279°
ES-3 (fixed)	10	44	09/19 0800 PST	MMSS West Boundary	1.1 mph 214°
ES-4	25	115	08/21 1300 PST	East of the Mid-Waste Rock Pile	6.0 mph 189°
ES-5[2]	N/A	N/A	N/A	N/A	N/A
ES-6	22	136	07/09 0000 PST	E of Pit 4 above Area 5	1.5 mph 290°
ES-7	32	415	07/12 1300 PST	SW Corner of Area 5	5.0 mph 190°
ES-8[2]	N/A	N/A	N/A	N/A	N/A

[1]Excludes high-TSP periods dominated by local or regional smoke; those data are summarized in Table 3. Also excludes false elevated readings caused by rain and/or fog.
[2]Sampler not used during quarter

Table 3: TSP Data Statistics for Smoke-Affected Periods for Quarter 3, 2019

Monitor ID	Avg. TSP ($\mu g/m^3$)	Max. Hourly TSP ($\mu g/m^3$)	Date and Time	Location	WS/WD
ES-1	95	327	08/02 2300 PST	MMSS North Boundary	3.2 mph 294°
ES-2	127	583	08/03 0000 PST	MMSS Southeast Boundary	2.2 mph 310°
ES-3	82	295	08/05 1300 PST	MMSS West Boundary	3.9 mph 254°
ES-4	126	423	08/05 1300 PST	Top of Stockpile 3	3.9 mph 254°
ES-5[1]	N/A	N/A	N/A	N/A	N/A
ES-6	143	557	08/05 1300 PST	E of Pit 4 above Area 5	3.9 mph 254°
ES-7	208	806	08/02 2300 PST	SE Corner of Area 5	3.2 mph 294°
ES-8[1]	N/A	N/A	N/A	N/A	N/A

[1] Sampler not used during quarter.

Hours (PST) affected by smoke included:

- 07/25 @ 1000 (brief smoke/haze observed by Bison during monthly calibration trip)
- 08/02 @ 2200 – 08/03 @ 0200
- 08/05 @ 1200 – 08/06 @ 0200
- 08/06 @ 0600 – 08/07 @ 0200
- 08/07 @ 0600 – 08/08 @ 0200
- 08/08 @ 0600 – 08/09 @ 0200
- 08/09 @ 1400 – 08/10 @ 0200

5.0 ALARM EVENTS

The Midnite Mine data collection system provides automated e-mail alarm notifications to specified project team members whenever the rolling one-hour TSP concentration at any monitor exceeds the 260 µg/m^3 trigger level. The system also sends out notifications whenever the rolling 15-minute TSP concentration exceeds 260 µg/m^3; this gives onsite personnel advance notification that a TSP problem may be developing so they can take appropriate actions (e.g., additional watering) to prevent an actual alarm condition.

A total of 21 alarm episodes occurred during the third quarter of 2019. Five of the alarms were due to false elevated TSP readings caused by rain or fog. Sixteen reflected valid TSP concentrations, but fifteen of those were caused by smoke from the Williams Flats fire during early August. One alarm reflected valid TSP concentrations caused by placing a monitor in unacceptably close proximity (<50 feet) to haul truck traffic. That alarm quickly cleared when the monitor was relocated to its normal position of approximately 150 feet from haul truck traffic.

An alarm condition exists whenever the rolling one-hour TSP average at any monitor exceeds the 260 µg/m^3 trigger level. The rolling one-hour TSP value is calculated by averaging the twelve preceding 5-minute TSP block averages. Thus, a new rolling one-hour TSP average is calculated for each monitor every 5 minutes. Whenever this rolling average exceeds 260 µg/m^3 at any monitor a record is automatically written to the site datalogger's alarm event data file and the e-mail alarm notification process is initiated.

Table 4 presents data for each alarm episode during the third quarter based on the alarm event data file. It shows the start and end times and reported particulate concentrations associated with each alarm episode. The table also indicates whether the episode was valid and whether it was affected by external factors (e.g., smoke, fog or precipitation). Note that the start and end times represent the first and last times at which the rolling one-hour TSP average exceeded the 260 µg/m^3 trigger level.

For example, consider the reported alarm condition at E-Sampler No. 1 on August 2, 2019:

- The alarm episode time interval was 2255-2354 PST.
    - The alarm condition first occurred at 2255 PST on August 2, because the rolling one-hour TSP average based on the twelve 5-minute blocks representing 2156 through 2255 PST exceeded 260 µg/m^3.
    - The alarm condition lasted through 2354 PST because the 60-minute rolling TSP average remained above 260 µg/m^3 through that time. The alarm condition cleared at 2355 PST because the new 60-minute calculated rolling average (based on 2256 through 2355 PST) dropped below 260 µg/m^3.

- The average of the rolling one-hour TSP concentrations over the entire alarm episode was 365 µg/m^3.

- The maximum rolling one-hour TSP concentration within the alarm episode was 447 µg/m^3 and occurred at 2320 PST (based on the twelve 5-minute blocks representing 2221 PST through 2320 PST).

- The rightmost column indicates this was a valid alarm that was caused by smoke from the nearby Williams Flats fire.

The 21 alarms summarized in Table 4 can be categorized as follows:

- Five alarms were due to false elevated TSP readings caused by rain and/or fog. They were most common at E-Sampler No.1, which is at the top of Pit 4 and near the highest elevation in the Midnite Mine site. All of these alarms occurred in September when weather conditions became much wetter and cooler. Three of the five alarms occurred when no site activities were in progress.

- Fifteen alarms were caused by smoke from the Williams Flats wildfire which burned on the Colville Indian Reservation west of the Midnite Mine property in early August. The individual TSP alarm records in Appendix C include photographic documentation for these smoke-related events.

- One alarm occurred when E-Sampler No. 7 was placed less than 50 feet from haul truck traffic near the hydration station in the northeast corner of Area 5. The samplers are normally put a minimum of 150 feet from haul truck traffic. When the alarm was reported the sampler was moved back to its original location in the southwest corner of Area 5, and the alarm condition quickly cleared.

Table 5 summarizes the alarm episodes by date according to primary cause and lists the affected monitors. It also briefly describes any actions taken in response to the alarm conditions (additional details are provided in the individual Midnite Mine TSP Alarm Records in Appendix C). Note that no specific responses were required for the alarms caused by rain, fog and/or wildfire smoke since they were unrelated to site activities. In some instances, monitors were temporarily shut down during such periods to avoid generating additional false alarms. However, normal dust control methods were consistently employed in accordance with requirements set forth in the DCAQMP – regardless of weather or smoke conditions.

All reported TSP alarms were documented in the weekly reports for the appropriate time periods. Appendix C presents documentation of alarm events occurring during the third quarter of 2019.

Table 4: Summary of Reported Alarm Events, Quarter 3, 2019

Sampler	Date (2019) and Time Interval (PST)	Sampler Location	Average[A] TSP Alarm Value (µg/m^3)	Maximum[B] TSP Alarm Value (µg/m^3)	Time of Maximum TSP Alarm Value (PST)	Valid Alarm?
ES-1	08/02 @ 2255-2354	MMSS North Boundary	365	447	2320	Yes[1]
ES-1	08/05 @ 1235-1344	MMSS North Boundary	316	367	1320	Yes[1]
ES-1	09/09 @ 0630-0724	MMSS North Boundary	345	401	0645	No[2,3]
ES-1	09/16 @ 1115-1119	MMSS North Boundary	274	274	1115	No[2,3]
ES-1	09/17 @ 0730-0829	MMSS North Boundary	631	677	0745	No[2]
ES-1	09/23 @ 0350-0459	MMSS North Boundary	516	687	0410	No[2]
ES-2	08/02 @ 2310-08/03 @ 0144	MMSS Southeast Boundary	475	638	0025	Yes[1]
ES-2	08/05 @ 1245-1359	MMSS Southeast Boundary	377	485	1330	Yes[1]
ES-2	08/06 @ 1145-1209	MMSS Southeast Boundary	266	273	1150	Yes[1]
ES-2	08/08 @ 1905-2004	MMSS Southeast Boundary	373	447	1935	Yes[1]
ES-3	08/02 @ 2310-2324	MMSS West Boundary	276	281	2310	Yes[1]
ES-3	08/05 @ 1210-1314	MMSS West Boundary	284	301	1300	Yes[1]

[A] Denotes average TSP value over entire alarm episode.
[B] Denotes maximum one-hour rolling average TSP value over entire alarm episode.
[1] Alarm caused by smoke from nearby Williams Flats wildfire.
[2] Alarm caused by fog and/or rain, not site operations.
[3] Site operations not in progress at time of alarm.

Table 4: Summary of Reported Alarm Events, Quarter 3, 2019 (Continued)

Sampler	Date (2019) and Time Interval (PST)	Sampler Location	Average[A] TSP Alarm Value (µg/m^3)	Maximum[B] TSP Alarm Value (µg/m^3)	Time of Maximum TSP Alarm Value (PST)	Valid Alarm?
ES-4	08/02 @ 2250-2349	Top of Stockpile 3	405	479	2310	Yes[1]
ES-4	08/05 @ 1220-1344	Top of Stockpile 3	371	482	1310	Yes[1]
ES-6	08/02 @ 2254-2354	East Side of Pit 4	520	676	2310	Yes[1]
ES-6	08/05 @ 1205-1349	East Side of Pit 4	443	630	1310	Yes[1]
ES-6	09/16 @ 1105-1149	East Side of Pit 4	329	356	1115	No[2,3]
ES-7	07/12 @ 1210-1254	NE Corner of Area 5 (Hydration Station)	343	365	1250	Yes
ES-7	08/02 @ 2230-2359	SW Corner of Area 5	621	913	2310	Yes[1]
ES-7	08/05 @ 1150-1404	SW Corner of Area 5	544	848	1315	Yes[1]
ES-7	08/07 @ 1240-1404	SW Corner of Area 5	305	345	1340	Yes[1]

[A] Denotes average TSP value over entire alarm episode.
[B] Denotes maximum one-hour rolling average TSP value over entire alarm episode.
[1] Alarm caused by smoke from nearby Williams Flats wildfire.
[2] Alarm caused by fog and/or rain, not site operations.
[3] Site operations not in progress at time of alarm.

Table 5: Summary of Midnite Mine OU Alarm Conditions

Part 1: Alarms Caused by Onsite Activities

DATE (time)	SAMPLERS	REMARKS
Jul 12 (early PM)	ES-7	Alarm caused by locating sampler unreasonably close (<50 ft) to truck traffic near site's hydration station. Monitor was moved to its original location near the southwest corner of Area 5, 150 feet from the haul truck traffic

Part 2: Alarms Caused by False Elevated Sampler Readings

DATE (time)	SAMPLERS	REMARKS
Sep 9 (early AM)	ES-1	No action, elevated TSP readings due to rain / fog. No site activity occurring at time of alarm (weekend).
Sep 16 (late AM)	ES-1, ES-6	No action, elevated TSP readings due to rain / fog. No site activity occurring at time of alarms; work had been halted prior to alarms due to wet conditions.
Sep 17 (AM)	ES-1	No action, elevated TSP readings due to fog.
Sep 23 (late AM)	ES-1	No action, elevated TSP readings due to fog.

Part 3: Alarms Caused by Local Wildfire Smoke

DATE (time)	SAMPLERS	REMARKS
Aug 2 (late PM)	ES-1, ES-2, ES-3, ES-4, ES-6, ES-7	Alarm caused by smoke from nearby Williams Flats fire. No action taken
Aug 5 (early PM)	ES-1, ES-2, ES-3, ES-4, ES-6, ES-7	Alarm caused by smoke from nearby Williams Flats fire. No action taken
Aug 6 (early PM)	ES-2	Alarm caused by smoke from nearby Williams Flats fire. No action taken
Aug 7 (early PM)	ES-7	Alarm caused by smoke from nearby Williams Flats fire. No action taken
Aug 8 (late PM)	ES-2	Alarm caused by smoke from nearby Williams Flats fire. No action taken

6.0 WIND ROSE ANALYSIS

Figure 2 presents a wind rose for the site for the third quarter of 2019, based on hourly wind data collected by the 10-foot meteorological tower. Table 6 shows the same data in tabular format. The meteorological station was located near the center of the site as shown in Figure 1.

During the third quarter winds were predominantly from the southwest and northwest quadrants, accounting for approximately 65 percent of observed winds. There was also a secondary maximum for north-northeasterly winds, which were the strongest winds. The average wind speed from that direction was 4.1 mph. In general wind speeds at the site were light, averaging only 3.0 miles per hour (mph). The highest measured one-hour average wind speed was 10.7 mph. The light winds are due to the local terrain; much of the site is sheltered by higher ridges to the east and west and is extensively forested.

Monthly wind roses for July, August and September are presented in Appendix D and are reasonably consistent with the quarterly wind rose. However, westerly and north-northeasterly winds were more pronounced in September compared to July and August. Average monthly wind speeds ranged from 2.8 mph in August to 3.1 mph in September.

Figure 2: Wind Rose for Dawn / Newmont Midnite Mine Site, Washington

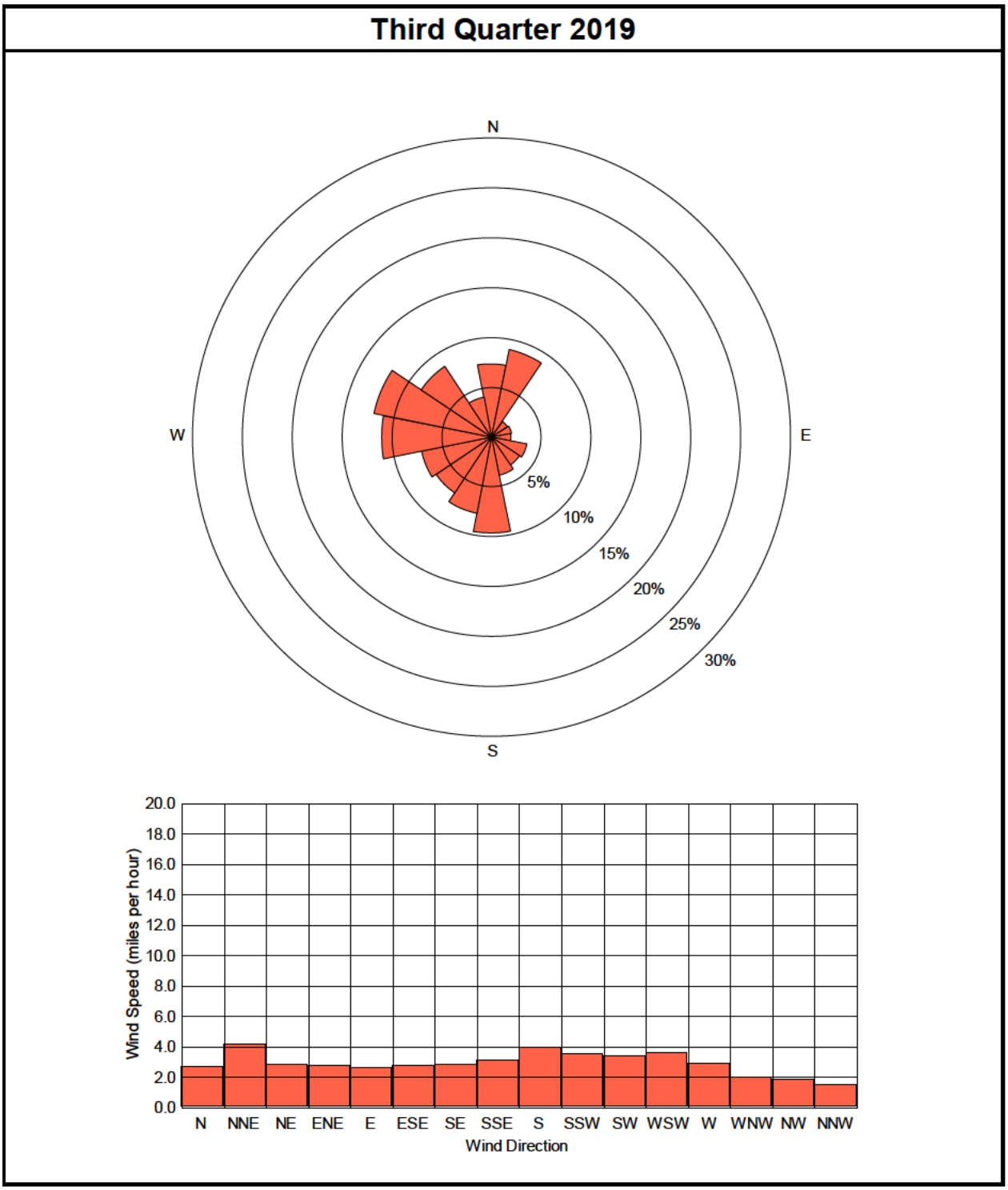


Table 6: Wind Rose Summary for Dawn / Newmont Midnite Mine Site, Washington

Third Quarter 2019																	
	Direction>>>	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
Wind Speed (miles per hour)	0.1 - 2.0	3.4	2.0	0.5	0.8	0.9	1.1	0.9	1.1	0.9	1.1	1.1	1.4	4.1	7.5	5.6	3.2	35.6
	2.1 - 4.0	2.2	3.1	1.1	0.8	0.7	2.1	2.1	1.9	3.8	3.5	3.3	2.6	3.9	3.4	2.4	0.8	37.6
	4.1 - 6.0	1.1	2.2	0.3	0.4	0.4	0.4	0.5	0.9	4.6	3.1	2.2	3.0	2.8	1.0	0.3	0.1	23.0
	6.1 - 8.0	0.4	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.1	0.2	0.1	0.1	0.0	2.1
	8.1 - 10.0	0.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
	10.1 - 12.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
	12.1 - 14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	14.1 - 16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16.1 - 18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	18.1 - 20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	20.1 - 22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	22.1 - 24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	24.1 - 26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	26.1 - 28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	28.1 - 30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	30.1 - 32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	32.1 - 34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34.1 - 36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	36.1 - 38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	38.1 - 40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	> 40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Calm																	0.2
	Total	7.3	8.9	1.9	2.1	2.0	3.7	3.4	3.9	9.6	7.7	6.7	7.1	11.0	11.9	8.4	4.1	100.0
	Average Speed	2.7	4.1	2.8	2.8	2.6	2.8	2.8	3.1	3.9	3.5	3.3	3.6	2.9	1.9	1.8	1.5	2.9

7.0 HOURLY DATA TABLES

Appendix B presents the hourly data values for all operating E-Samplers and for the meteorological parameters during those periods when remediation activities were occurring. Note that all data is reported based on Pacific Standard Time (PST), not daylight savings time which was in effect throughout the third quarter.

Data codes used in the tables include:

ND	No data reported during the hour (sampler not operating)
C	Calibration in progress for part of the hour
CAL	Calibration activities in progress during the hour, no data available
F	Invalid TSP data due to rain and/or fog
PW	No data collected due to power failure
RL	No data because computer/datalgger system was being relocated from the upper Decon Shack to an office trailer
SN	No data due to snow on solar panels, causing loss of power to sampler
SSD	No site activity due to safety stand down

- All E-Sampler readings at or above the 260 µg/m^3 trigger level are shown in bold red font.

- Periods when TSP readings were affected by wildfire smoke are shaded in gray.

- Periods when TSP data were invalid due to rain or fog are shaded in blue.

8.0 EQUIPMENT CALIBRATION DATA

Routine monthly E-Sampler calibrations were performed on July 25, August 20 and September 11. E-Sampler calibration results – including any adjustments – are presented in Appendix E.

Full meteorological calibrations were performed on July 25 and are presented in Appendix F. An additional calibration of the rain gauge was performed on August 20, after its tipping bucket set screws were adjusted. No other adjustments were required during the third quarter.

9.0 EPA METHOD 9 AND METHOD 22 TESTING

Table 7 summarizes the Method 9 and Method 22 emissions evaluations conducted during the third quarter of 2019. Additional evaluations originally scheduled for the end of September were performed on October 2-3 and are included herein for completeness. Opacities recorded during the Method 9 evaluations were within the allowable level provided in the DCAQMO. There were no fugitive dust emissions observed during Method 22 observations of active or inactive construction areas. Observation forms for each evaluation are included in Appendix G of this report.

Table 7: Summary of Method 9 and Method 22 Visible Emission Evaluations

Date	Process Description	Location	Evaluation Type
Sep 24	Kohler 17 KW Propane Generator	Blood Pool Building	Method 9
Sep 24	Kohler 7 KW Propane Generator	East Seep	Method 9
Sep 24	Kohler 7 KW Propane Generator	Central Drainage	Method 9
Sep 24	Cummins 60 KW Diesel Generator	Western Drainage	Method 9
Sep 26	Kohler 7 KW Propane Generator	Pollution Control Pond	Method 9
Sep 26	Kohler 7 KW Propane Generator	Decontamination Station	Method 9
Oct 2	Caterpillar 745C Haul Trucks Caterpillar 16M Grader	Active Construction Area	Method 22
Oct 2	Stockpile 4	Inactive Construction Area	Method 22
Oct 3	Gas and Diesel Fuel Transfer to Storage Tanks	Fuel Farm	Method 9
Oct 3	Kohler 7 KW Propane Generator	Wastewater Treatment Plant	Method 9
Oct 3	Multiquip 45 KW Diesel Generator	Pit 4 (Horizontal Dewatering)	Method 9

APPENDIX A: E-SAMPLER MONITORING LOCATIONS QUARTER 3, 2019

Location tables are grouped by calendar week.

The site operated on double shifts throughout the third quarter. During that time, a "Workday" is defined as starting at 0600 PDT and ending by 0230 PDT. For example, the Workday of July 8 begins at 0600 PDT on July 8 and ends at 0230 PDT on July 9.

TSP Monitoring Locations for July 1 – July 4, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	07/01/2019	07/04/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	07/01/2019	07/04/2019
ES-3 (fixed)	Midnite Mine West Boundary	07/01/2019	07/04/2019
ES-4	Top of Stockpile 3	07/01/2019	07/04/2019
ES-5	NOT USED	N/A	N/A
ES-6	E of Pit 4 above Area 5	07/01/2019	07/04/2019
ES-7	SW Corner of Area 5	07/01/2019	07/04/2019
ES-8	NOT USED	N/A	N/A

TSP Monitoring Locations from July 8 – July 12, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	07/08/2019	07/12/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	07/08/2019	07/12/2019
ES-3 (fixed)	Midnite Mine West Boundary	07/08/2019	07/12/2019
ES-4	Top of Stockpile 3	07/08/2019	07/12/2019
ES-5	NOT USED	N/A	N/A
ES-6	E of Pit 4 above Area 5	07/08/2019	07/12/2019
ES-7	SW Corner of Area 5	07/08/2019	07/12/2019
ES-8	NOT USED	N/A	N/A

TSP Monitoring Locations from July 15 – July 19, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	07/15/2019	07/19/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	07/15/2019	07/19/2019
ES-3 (fixed)	Midnite Mine West Boundary	07/15/2019	07/19/2019
ES-4	Top of Stockpile 3	07/15/2019	07/19/2019
ES-5	NOT USED	N/A	N/A
ES-6	Water Tanks above Decon Area	07/15/2019	07/19/2019
ES-7	SW Corner of Area 5	07/15/2019	07/19/2019
ES-8	NOT USED	N/A	N/A
July 19: Monitors shut down early, site activities halted for Safety Stand Down.			

TSP Monitoring Locations from July 22 – July 26, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	07/25/2019	07/26/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	07/25/2019	07/26/2019
ES-3 (fixed)	Midnite Mine West Boundary	07/25/2019	07/26/2019
ES-4	Top of Stockpile 3	07/25/2019	07/26/2019
ES-5	NOT USED	N/A	N/A
ES-6	Water Tanks above Decon Area	07/25/2019	07/26/2019
ES-7	SW Corner of Area 5	07/25/2019	07/26/2019
ES-8	NOT USED	N/A	N/A
No work activity from July 22 - July 24 due to Safety Stand Down			

TSP Monitoring Locations from July 29 – August 2, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	07/29/2019	08/02/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	07/29/2019	08/02/2019
ES-3 (fixed)	Midnite Mine West Boundary	07/29/2019	08/02/2019
ES-4	Top of Stockpile 3	07/29/2019	08/02/2019
ES-5	NOT USED	N/A	N/A
ES-6	Water Tanks above Decon Area	07/29/2019	08/02/2019
ES-7	SW Corner of Area 5	07/29/2019	08/02/2019
ES-8	NOT USED	N/A	N/A
August 2: Monitors shut off early due to regional wildfire smoke (Williams Flats Fire) causing TSP alarms			

TSP Monitoring Locations from August 5 – August 9, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	08/05/2019 08/07/2019 08/09/2019	08/05/2019 08/07/2019 08/09/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	08/05/2019	08/09/2019
ES-3 (fixed)	Midnite Mine West Boundary	08/05/2019 08/07/2019 08/09/2019	08/05/2019 08/07/2019 08/09/2019
ES-4	Top of Stockpile 3	08/05/2019 08/07/2019 08/09/2019	08/05/2019 08/07/2019 08/09/2019
ES-5	NOT USED	N/A	N/A
ES-6	Water Tanks above Decon Area	08/05/2019 08/07/2019 08/09/2019	08/05/2019 08/07/2019 08/09/2019
ES-7	SW Corner of Area 5	08/05/2019 08/07/2019 08/09/2019	08/05/2019 08/07/2019 08/09/2019
ES-8	NOT USED	N/A	N/A
August 5: Monitors shut off early due to regional wildfire smoke (Williams Flats Fire) causing TSP alarms August 6: Smoky conditions continued. Monitor ES-2 operated to monitor background conditions. No monitoring of site activity attempted due to likelihood of smoke-related alarms August 7: Monitors shut off after a few hours due to start of smoke-related alarms August 8: Smoky conditions continued. Monitor ES-2 operated to monitor background conditions. No monitoring of site activity attempted due to likelihood of smoke-related alarms August 9: Smoke had abated, normal monitoring activities resumed			

TSP Monitoring Locations from August 12 – August 16, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	08/13/2019	08/16/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	08/13/2019	08/16/2019
ES-3 (fixed)	Midnite Mine West Boundary	08/13/2019	08/16/2019
ES-4	Top of Stockpile 3	08/13/2019	08/16/2019
ES-5	NOT USED	N/A	N/A
ES-6	E Side of Pit 4	08/13/2019	08/16/2019
ES-7	SW Corner of Area 5	08/13/2019	08/16/2019
ES-8	NOT USED	N/A	N/A
August 12: No day shift worked due to wet road conditions. Night shift worked but monitors were not operated because CQAO was not advised of that schedule. Dust problems highly unlikely due to wet conditions.			

TSP Monitoring Locations from August 19 – August 23, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	08/19/2019	08/23/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	08/19/2019	08/23/2019
ES-3 (fixed)	Midnite Mine West Boundary	08/19/2019	08/23/2019
ES-4	East of the Mid-WRP	08/19/2019	08/23/2019
ES-5	NOT USED	N/A	N/A
ES-6	E Side of Pit 4	08/19/2019	08/23/2019
ES-7	SW Corner of Area 5	08/19/2019	08/23/2019
ES-8	NOT USED	N/A	N/A

TSP Monitoring Locations from August 26 – August 30, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	08/26/2019	08/30/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	08/26/2019	08/30/2019
ES-3 (fixed)	Midnite Mine West Boundary	08/26/2019	08/30/2019
ES-4	East of the Mid-WRP	08/26/2019	08/30/2019
ES-5	NOT USED	N/A	N/A
ES-6	E Side of Pit 4	08/26/2019	08/30/2019
ES-7	SW Corner of Area 5	08/26/2019	08/30/2019
ES-8	NOT USED	N/A	N/A

TSP Monitoring Locations from September 2 – September 6, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	09/03/2019	09/06/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	09/03/2019	09/06/2019
ES-3 (fixed)	Midnite Mine West Boundary	09/03/2019	09/06/2019
ES-4	East of the Mid-WRP	09/03/2019	09/06/2019
ES-5	NOT USED	N/A	N/A
ES-6	E Side of Pit 4	09/03/2019	09/06/2019
ES-7	SW Corner of Area 5	09/03/2019	09/06/2019
ES-8	NOT USED	N/A	N/A
September 2: No site work due to Labor Day Holiday			

TSP Monitoring Locations from September 9 – September 13, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	09/10/2019	09/13/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	09/10/2019	09/13/2019
ES-3 (fixed)	Midnite Mine West Boundary	09/10/2019	09/13/2019
ES-4	East of the Mid-WRP	09/10/2019	09/13/2019
ES-5	NOT USED	N/A	N/A
ES-6	E Side of Pit 4	09/10/2019	09/13/2019
ES-7	SW Corner of Area 5	09/10/2019	09/13/2019
ES-8	NOT USED	N/A	N/A
September 9: No site work due to heavy rain			

TSP Monitoring Locations from September 16 – September 20, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	09/16/2019 09/19/2019	09/17/2019 09/20/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	09/16/2019 09/19/2019	09/16/2019 09/20/2019
ES-3 (fixed)	Midnite Mine West Boundary	09/16/2019 09/19/2019	09/17/2019 09/20/2019
ES-4	East of the Mid-WRP	09/16/2019 09/19/2019	09/16/2019 09/20/2019
ES-5	NOT USED	N/A	N/A
ES-6	E Side of Pit 4	09/16/2019 09/19/2019	09/16/2019 09/20/2019
ES-7	SW Corner of Area 5	09/16/2019 09/19/2019	09/17/2019 09/20/2019
ES-8	NOT USED	N/A	N/A
September 16: Samplers shut off early and site work halted due to rain September 17: Monitor ES-3 operated all day to monitor background conditions. Monitors ES-1 and ES-7 operated briefly, then shut down due to false alarms from fog. Night shift stopped work early due to rain September 18: No site work performed due to wet conditions.			

TSP Monitoring Locations from September 23 – September 27, 2019

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	09/23/2019	09/27/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	09/23/2019	09/27/2019
ES-3 (fixed)	Midnite Mine West Boundary	09/23/2019	09/27/2019
ES-4	Turnout by Stockpile 4	09/23/2019	09/27/2019
ES-5	NOT USED	N/A	N/A
ES-6	E Side of Pit 4	09/23/2019	09/27/2019
ES-7	SW Corner of Area 5	09/23/2019	09/27/2019
ES-8	NOT USED	N/A	N/A

TSP Monitoring Locations on September 30, 2019 (last day of Quarter 3)

Monitor ID	Location Description	Starting Workday	Ending Workday
ES-1 (fixed)	Midnite Mine North Boundary	09/30/2019	09/30/2019
ES-2 (fixed)	Midnite Mine Southeast Boundary	09/30/2019	09/30/2019
ES-3 (fixed)	Midnite Mine West Boundary	09/30/2019	09/30/2019
ES-4	Turnout by Stockpile 4	09/30/2019	09/30/2019
ES-5	NOT USED	N/A	N/A
ES-6	E Side of Pit 4	09/30/2019	09/30/2019
ES-7	SW Corner of Area 5	09/30/2019	09/30/2019
ES-8	NOT USED	N/A	N/A

APPENDIX B: HOURLY TSP / MET DATA
QUARTER 3, 2019

The following pages present the hourly data values for all operating E-Samplers and for the meteorological parameters during those periods when remediation activities were occurring. Note that all data is reported based on Pacific Standard Time (PST), not daylight savings time which was in effect throughout the third quarter.

Data codes used in the tables include:

ND	No data reported during the hour (sampler not operating)
C	Calibration in progress for part of the hour
CAL	Calibration activities in progress during the hour, no data available
F	Invalid TSP data due to rain and/or fog
PW	No data collected due to power failure
RL	No data because computer/datalgger system was being relocated from the upper Decon Shack to an office trailer
SN	No data due to snow on solar panels, causing loss of power to sampler
SSD	No site activity due to safety stand down

- All E-Sampler readings at or above the 260 µg/m^3 trigger level are shown in bold red font.

- Periods when TSP readings were affected by wildfire smoke are shaded in gray.

- Periods when TSP data were invalid due to rain or fog are shaded in blue.

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
7/1/2019 1:00	3	2	ND	ND	ND	ND	ND	ND	0.8	331	29	65.7	34.1	0	0.00
7/1/2019 2:00	4	4	ND	ND	ND	ND	ND	ND	0.5	331	16	66.1	33.3	0	0.00
7/1/2019 6:00	7	4	1	ND	ND	ND	ND	ND	0.2	247	68	66.1	38.1	153	0.00
7/1/2019 7:00	11	6	6	ND	ND	12	24	ND	1.7	167	74	68.0	36.0	298	0.00
7/1/2019 8:00	5	5	12	ND	ND	2	16	ND	2.1	122	89	71.8	33.3	511	0.00
7/1/2019 9:00	11	4	9	10	ND	15	19	ND	3.0	213	39	73.4	31.8	631	0.00
7/1/2019 10:00	8	7	7	22	ND	14	22	ND	4.5	212	33	74.7	31.1	765	0.00
7/1/2019 11:00	6	8	6	19	ND	24	18	ND	4.9	261	54	76.4	27.7	844	0.00
7/1/2019 12:00	8	8	9	17	ND	20	37	ND	5.5	283	54	77.9	25.1	889	0.00
7/1/2019 13:00	8	8	6	16	ND	17	28	ND	5.4	273	48	79.3	23.6	889	0.00
7/1/2019 14:00	10	10	6	18	ND	20	25	ND	5.3	236	55	80.8	22.8	810	0.00
7/1/2019 15:00	11	11	5	18	ND	35	20	ND	5.3	241	55	81.3	22.1	687	0.00
7/1/2019 16:00	10	13	5	23	ND	21	18	ND	4.5	254	47	80.6	22.0	447	0.00
7/1/2019 17:00	10	10	8	25	ND	20	20	ND	4.4	267	58	81.1	21.1	441	0.00
7/1/2019 18:00	9	8	4	28	ND	18	24	ND	3.4	279	71	80.8	19.9	265	0.00
7/1/2019 19:00	9	9	7	31	ND	17	31	ND	1.4	238	56	78.0	22.3	64	0.00
7/1/2019 20:00	10	13	8	20	ND	12	27	ND	1.0	289	25	74.0	25.3	15	0.00
7/1/2019 21:00	9	11	6	24	ND	56	34	ND	1.2	274	52	72.4	26.0	0	0.00
7/1/2019 22:00	7	11	7	19	ND	56	34	ND	2.4	257	61	71.7	31.6	0	0.00
7/1/2019 23:00	11	13	10	24	ND	61	37	ND	2.2	269	60	70.3	36.7	0	0.00
7/2/2019 0:00	16	15	12	32	ND	62	33	ND	2.1	212	48	67.3	44.6	0	0.00
7/2/2019 1:00	21	20	20	40	ND	52	49	ND	2.1	222	51	64.0	51.9	0	0.00
7/2/2019 2:00	14	17	14	26	ND	28	32	ND	1.1	196	53	63.4	53.3	0	0.00
7/2/2019 6:00	9	7	11	15	ND	16	21	ND	1.9	209	31	56.9	76.9	79	0.00
7/2/2019 7:00	11	10	10	20	ND	22	22	ND	1.9	194	67	58.2	75.1	199	0.00
7/2/2019 8:00	12	12	15	20	ND	20	24	ND	3.2	176	40	61.4	67.8	329	0.00
7/2/2019 9:00	12	13	17	26	ND	21	25	ND	4.3	165	29	63.8	63.2	581	0.00
7/2/2019 10:00	14	14	16	25	ND	59	30	ND	4.2	171	54	67.3	56.2	608	0.00
7/2/2019 11:00	13	15	17	29	ND	31	28	ND	5.0	171	40	70.1	50.3	734	0.00
7/2/2019 12:00	14	13	13	23	ND	19	25	ND	4.7	182	40	71.1	43.5	471	0.00
7/2/2019 13:00	12	13	15	30	ND	27	28	ND	5.0	175	36	72.6	40.4	615	0.00
7/2/2019 14:00	12	12	16	26	ND	24	28	ND	5.4	169	30	73.5	37.4	651	0.00
7/2/2019 15:00	14	12	10	26	ND	25	25	ND	5.5	177	35	74.4	35.3	560	0.00
7/2/2019 16:00	13	12	5	24	ND	23	31	ND	4.2	258	82	72.0	43.2	228	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
7/2/2019 17:00	14	15	16	24	ND	22	39	ND	4.8	25	57	66.6	59.1	98	0.05
7/2/2019 18:00	8	11	9	17	ND	16	18	ND	3.5	293	68	61.8	73.4	65	0.06
7/2/2019 19:00	11	11	6	13	ND	15	17	ND	4.7	354	39	59.2	73.5	21	0.11
7/2/2019 20:00	5	5	3	9	ND	10	12	ND	5.7	5	18	59.5	66.3	7	0.11
7/2/2019 21:00	6	6	3	9	ND	47	20	ND	2.8	323	79	59.4	66.3	0	0.11
7/2/2019 22:00	6	7	5	13	ND	35	18	ND	2.4	301	39	56.6	77.7	0	0.11
7/2/2019 23:00	3	7	5	11	ND	65	22	ND	2.3	353	69	56.4	78.6	0	0.11
7/3/2019 0:00	4	7	5	11	ND	88	12	ND	4.6	2	36	58.4	67.2	0	0.11
7/3/2019 1:00	4	5	6	9	ND	47	12	ND	3.3	307	58	59.1	63.1	0	0.00
7/3/2019 2:00	5	6	7	11	ND	13	13	ND	0.7	337	38	55.6	75.8	0	0.00
7/3/2019 6:00	7	10	9	18	ND	14	21	ND	3.1	98	70	53.0	87.2	61	0.00
7/3/2019 7:00	11	13	12	23	ND	23	26	ND	3.4	55	68	52.0	88.7	101	0.00
7/3/2019 8:00	8	11	13	21	ND	15	26	ND	3.7	136	27	54.3	84.3	187	0.00
7/3/2019 9:00	5	12	11	20	ND	16	23	ND	3.5	115	34	56.8	81.5	381	0.00
7/3/2019 10:00	10	12	15	21	ND	17	22	ND	4.2	129	50	62.1	68.9	767	0.00
7/3/2019 11:00	10	13	15	22	ND	21	27	ND	4.0	122	49	62.9	65.2	370	0.00
7/3/2019 12:00	12	14	17	23	ND	22	29	ND	2.7	117	60	63.2	65.0	409	0.00
7/3/2019 13:00	10	11	11	21	ND	23	24	ND	2.8	227	94	68.0	53.0	722	0.00
7/3/2019 14:00	9	11	9	18	ND	21	23	ND	2.1	257	78	68.0	50.0	290	0.00
7/3/2019 15:00	9	10	10	18	ND	16	21	ND	3.9	242	51	70.7	42.8	617	0.00
7/3/2019 16:00	9	11	11	18	ND	16	21	ND	3.5	232	52	70.1	45.2	417	0.00
7/3/2019 17:00	11	12	11	21	ND	28	27	ND	3.6	260	41	71.1	44.0	412	0.00
7/3/2019 18:00	33	24	33	41	ND	56	53	ND	3.4	234	60	70.5	46.6	275	0.00
7/3/2019 19:00	23	19	19	31	ND	37	40	ND	1.8	262	36	68.2	50.7	54	0.00
7/3/2019 20:00	22	24	19	36	ND	35	55	ND	1.1	324	35	64.9	58.1	9	0.00
7/3/2019 21:00	12	21	13	27	ND	83	79	ND	1.1	296	47	63.6	60.6	0	0.00
7/3/2019 22:00	12	17	15	26	ND	106	85	ND	1.4	325	34	63.1	59.5	0	0.00
7/3/2019 23:00	12	15	13	26	ND	98	64	ND	1.0	315	13	62.4	59.8	0	0.00
7/4/2019 0:00	8	14	9	19	ND	122	73	ND	1.0	303	10	62.2	58.2	0	0.00
7/4/2019 1:00	7	10	6	22	ND	89	47	ND	1.1	285	31	61.0	62.1	0	0.00
7/4/2019 2:00	6	8	7	18	ND	12	15	ND	1.3	307	12	59.9	62.8	0	0.00
7/4/2019 6:00	8	8	8	18	ND	15	18	ND	0.8	86	58	58.9	67.1	115	0.00
7/4/2019 7:00	10	10	10	18	ND	16	22	ND	1.8	122	19	59.8	63.0	159	0.00
7/4/2019 8:00	10	9	13	15	ND	18	25	ND	2.7	162	22	60.9	61.4	338	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
7/4/2019 9:00	12	9	8	19	ND	23	21	ND	3.8	154	39	64.6	55.5	514	0.00
7/4/2019 10:00	12	11	11	19	ND	16	22	ND	3.3	160	44	67.4	51.5	554	0.00
7/4/2019 11:00	8	11	14	25	ND	19	23	ND	3.8	201	49	70.7	45.3	718	0.00
7/4/2019 12:00	12	9	12	25	ND	18	30	ND	4.7	217	49	72.5	40.1	887	0.00
7/4/2019 13:00	10	10	9	20	ND	29	20	ND	3.8	213	60	73.6	39.2	474	0.00
7/4/2019 14:00	16	10	8	19	ND	48	20	ND	3.6	201	61	75.2	36.1	500	0.00
7/4/2019 15:00	15	12	10	20	ND	40	24	ND	4.4	199	47	76.0	32.4	513	0.00
7/4/2019 16:00	11	13	11	25	ND	28	25	ND	4.9	195	53	78.1	28.5	583	0.00
7/4/2019 17:00	14	14	11	27	ND	38	27	ND	4.1	208	45	77.8	28.0	403	0.00
7/4/2019 18:00	13	14	12	25	ND	37	26	ND	3.6	213	61	76.4	29.0	254	0.00
7/4/2019 19:00	13	14	13	25	ND	22	26	ND	1.9	273	62	73.8	31.1	72	0.00
7/4/2019 20:00	12	16	11	26	ND	25	35	ND	2.0	323	18	70.8	36.5	18	0.00
7/4/2019 21:00	13	22	14	27	ND	66	40	ND	0.6	319	13	68.6	40.5	0	0.00
7/4/2019 22:00	15	24	14	31	ND	25	55	ND	0.5	344	26	67.1	43.6	0	0.00
7/4/2019 23:00	10	13	13	19	ND	34	36	ND	2.6	13	17	66.9	49.9	0	0.00
7/5/2019 0:00	11	10	11	17	ND	33	31	ND	2.8	21	16	66.1	53.2	0	0.00
7/5/2019 1:00	14	12	6	14	ND	42	23	ND	1.3	37	69	64.0	59.4	0	0.00
7/5/2019 2:00	11	13	ND	ND	ND	ND	ND	ND	0.9	6	40	60.4	67.4	0	0.00
7/8/2019 6:00	13	16	ND	14	ND	ND	ND	ND	2.6	89	76	57.3	68.5	151	0.00
7/8/2019 7:00	18	17	18	31	ND	ND	31	ND	4.0	92	51	60.8	63.7	312	0.00
7/8/2019 8:00	17	18	20	32	ND	19	37	ND	2.7	99	63	65.0	54.5	478	0.00
7/8/2019 9:00	12	14	14	26	ND	24	31	ND	4.1	154	36	67.0	48.7	576	0.00
7/8/2019 10:00	15	17	17	30	ND	30	32	ND	3.7	167	49	67.1	50.6	532	0.00
7/8/2019 11:00	12	13	15	25	ND	22	27	ND	4.1	160	34	67.8	47.5	604	0.00
7/8/2019 12:00	6	9	11	26	ND	19	17	ND	4.5	165	53	70.8	39.1	755	0.00
7/8/2019 13:00	12	10	10	24	ND	24	27	ND	3.7	201	59	71.1	36.9	478	0.00
7/8/2019 14:00	8	10	9	20	ND	19	18	ND	3.7	180	55	72.4	33.2	535	0.00
7/8/2019 15:00	8	12	9	20	ND	20	20	ND	4.2	227	55	73.1	34.7	529	0.00
7/8/2019 16:00	10	9	9	17	ND	25	20	ND	4.2	258	50	73.0	33.7	414	0.00
7/8/2019 17:00	12	10	7	23	ND	19	15	ND	5.0	264	56	74.2	31.6	464	0.00
7/8/2019 18:00	11	10	11	16	ND	14	25	ND	3.5	344	45	69.4	41.7	165	0.00
7/8/2019 19:00	7	9	10	14	ND	21	24	ND	2.1	262	99	71.3	39.4	125	0.00
7/8/2019 20:00	8	8	11	19	ND	13	23	ND	1.6	295	67	68.0	44.5	22	0.00
7/8/2019 21:00	8	10	9	23	ND	17	38	ND	0.4	327	45	64.6	51.5	0	0.00
7/8/2019 22:00	8	13	13	26	ND	76	58	ND	1.7	286	20	64.5	50.3	0	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
7/8/2019 23:00	8	12	13	21	ND	74	61	ND	1.9	292	16	62.9	53.5	0	0.00
7/9/2019 0:00	11	13	13	20	ND	136	71	ND	1.5	290	12	63.5	51.2	0	0.00
7/9/2019 1:00	11	11	8	20	ND	47	56	ND	0.6	301	6	62.3	52.9	0	0.00
7/9/2019 2:00	10	12	9	22	ND	23	24	ND	1.0	295	13	61.7	53.8	0	0.00
7/9/2019 6:00	9	10	7	25	ND	13	23	ND	1.3	50	48	62.3	58.3	158	0.00
7/9/2019 7:00	11	14	14	29	ND	16	33	ND	3.2	100	49	64.1	55.9	315	0.00
7/9/2019 8:00	12	14	15	28	ND	21	28	ND	3.7	114	27	67.3	50.3	476	0.00
7/9/2019 9:00	10	12	13	22	ND	22	26	ND	3.3	181	53	70.3	44.8	631	0.00
7/9/2019 10:00	13	12	15	20	ND	26	22	ND	3.5	177	60	72.9	38.3	745	0.00
7/9/2019 11:00	14	11	12	18	ND	27	20	ND	3.8	171	62	75.2	33.4	765	0.00
7/9/2019 12:00	9	11	11	24	ND	29	24	ND	4.5	183	75	76.9	31.4	873	0.00
7/9/2019 13:00	14	13	13	33	ND	31	26	ND	4.0	155	67	75.9	33.0	454	0.00
7/9/2019 14:00	13	12	12	25	ND	22	29	ND	4.3	142	45	76.1	31.3	368	0.00
7/9/2019 15:00	11	14	13	23	ND	20	23	ND	4.5	141	59	77.8	26.2	555	0.00
7/9/2019 16:00	11	12	13	26	ND	30	25	ND	5.1	120	49	78.8	24.9	456	0.00
7/9/2019 17:00	10	12	12	26	ND	25	24	ND	4.2	125	37	78.2	25.6	315	0.00
7/9/2019 18:00	11	12	13	26	ND	22	25	ND	3.1	120	37	76.6	28.1	123	0.00
7/9/2019 19:00	14	13	13	24	ND	16	29	ND	2.4	136	20	75.5	30.6	67	0.00
7/9/2019 20:00	13	14	11	24	ND	29	27	ND	0.5	146	67	73.5	32.7	8	0.00
7/9/2019 21:00	15	13	12	30	ND	22	28	ND	1.8	218	24	72.6	33.1	0	0.00
7/9/2019 22:00	15	21	17	32	ND	30	49	ND	2.0	297	66	71.1	36.7	0	0.00
7/9/2019 23:00	15	14	14	26	ND	26	63	ND	3.0	298	45	71.2	36.6	0	0.00
7/10/2019 0:00	11	12	8	25	ND	21	38	ND	1.0	24	66	69.1	46.4	0	0.00
7/10/2019 1:00	10	10	14	22	ND	21	43	ND	1.4	354	28	68.6	43.4	0	0.00
7/10/2019 2:00	12	10	8	21	ND	19	28	ND	2.7	359	16	69.1	40.7	0	0.00
7/10/2019 6:00	10	9	9	25	ND	22	25	ND	1.5	291	24	67.7	44.9	43	0.00
7/10/2019 7:00	11	11	11	29	ND	21	32	ND	2.7	283	37	67.9	46.6	85	0.00
7/10/2019 8:00	13	14	14	28	ND	24	40	ND	4.5	307	20	67.2	48.9	129	0.00
7/10/2019 9:00	13	15	16	23	ND	25	31	ND	4.2	296	33	66.7	54.1	217	0.00
7/10/2019 10:00	14	14	11	26	ND	24	29	ND	3.1	224	45	70.0	47.6	281	0.00
7/10/2019 11:00	14	14	17	29	ND	25	34	ND	3.9	176	22	70.0	52.2	390	0.00
7/10/2019 12:00	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW
7/10/2019 13:00	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW
7/10/2019 14:00	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
7/10/2019 15:00	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW
7/10/2019 16:00	8	6	5	16	ND	18	14	ND	4.0	192	48	74.8	36.7	224	0.00
7/10/2019 17:00	12	6	3	20	ND	30	28	ND	3.9	174	38	75.9	37.4	147	0.00
7/10/2019 18:00	11	6	4	17	ND	63	158	ND	3.3	183	61	75.0	39.9	100	0.00
7/10/2019 19:00	7	6	5	16	ND	25	33	ND	2.4	283	93	73.5	43.0	41	0.00
7/10/2019 20:00	6	12	3	14	ND	10	29	ND	1.3	294	59	71.6	47.0	11	0.00
7/10/2019 21:00	5	11	3	9	ND	9	42	ND	2.8	261	57	70.6	46.0	0	0.00
7/10/2019 22:00	4	7	3	11	ND	9	20	ND	1.7	278	71	69.1	48.3	0	0.00
7/10/2019 23:00	3	4	3	10	ND	12	16	ND	1.0	300	39	67.6	52.9	0	0.00
7/11/2019 0:00	6	7	4	10	ND	10	24	ND	0.7	292	11	66.3	56.2	0	0.00
7/11/2019 1:00	3	6	2	15	ND	16	26	ND	0.4	270	14	65.4	58.8	0	0.00
7/11/2019 2:00	4	6	5	10	ND	6	14	ND	0.9	269	21	64.9	60.1	0	0.00
7/11/2019 6:00	3	4	4	5	ND	4	6	ND	0.7	282	53	62.1	68.4	62	0.00
7/11/2019 7:00	4	2	2	4	ND	13	11	ND	1.4	230	43	64.0	62.4	234	0.00
7/11/2019 8:00	3	2	1	7	ND	2	11	ND	3.2	214	41	67.6	55.0	477	0.00
7/11/2019 9:00	3	2	3	7	ND	22	8	ND	3.7	225	53	70.7	47.3	620	0.00
7/11/2019 10:00	5	3	1	8	ND	9	10	ND	4.3	215	48	72.9	40.8	700	0.00
7/11/2019 11:00	5	6	6	11	ND	31	19	ND	4.4	261	57	75.3	36.3	800	0.00
7/11/2019 12:00	6	5	3	12	ND	37	26	ND	4.2	245	63	75.4	36.3	481	0.00
7/11/2019 13:00	8	7	3	20	ND	111	28	ND	3.8	247	67	75.7	36.7	482	0.00
7/11/2019 14:00	9	6	8	14	ND	35	78	ND	4.3	236	64	78.2	35.1	699	0.00
7/11/2019 15:00	7	5	3	13	ND	27	139	ND	4.0	226	64	76.9	37.1	325	0.00
7/11/2019 16:00	5	6	2	13	ND	13	23	ND	3.3	228	60	75.7	39.7	210	0.00
7/11/2019 17:00	10	13	7	28	ND	18	26	ND	3.8	237	69	75.8	39.8	240	0.00
7/11/2019 18:00	10	9	6	25	ND	16	25	ND	4.0	249	39	75.9	39.7	210	0.00
7/11/2019 19:00	6	11	5	22	ND	13	16	ND	2.9	260	47	73.8	41.3	54	0.00
7/11/2019 20:00	5	8	4	25	ND	21	18	ND	2.3	302	49	71.9	43.0	13	0.00
7/11/2019 21:00	4	4	2	29	ND	17	18	ND	1.9	324	13	70.3	44.4	0	0.00
7/11/2019 22:00	6	5	3	25	ND	14	17	ND	0.8	309	33	68.8	48.0	0	0.00
7/11/2019 23:00	5	5	5	23	ND	11	21	ND	1.0	300	17	67.8	52.7	0	0.00
7/12/2019 0:00	6	5	4	16	ND	11	21	ND	0.8	310	13	66.7	55.4	0	0.00
7/12/2019 1:00	5	7	3	33	ND	11	18	ND	0.8	313	15	66.1	56.4	0	0.00
7/12/2019 2:00	5	7	5	11	ND	9	10	ND	0.5	296	38	64.8	58.2	0	0.00
7/12/2019 6:00	6	5	5	14	ND	13	14	ND	1.2	194	51	65.4	60.1	165	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	Sigma deg	TEMP °F	RH %	SOLAR w/m^2	PCP inches
7/12/2019 7:00	7	7	8	11	ND	20	30	ND	1.7	182	55	66.0	60.6	304	0.00
7/12/2019 8:00	9	7	8	12	ND	16	42	ND	2.3	194	72	68.4	54.8	393	0.00
7/12/2019 9:00	5	5	5	9	ND	7	18	ND	3.1	176	42	70.7	48.0	559	0.00
7/12/2019 10:00	10	6	8	16	ND	23	9	ND	4.6	183	42	73.4	43.5	755	0.00
7/12/2019 11:00	9	6	9	11	ND	12	45	ND	4.6	176	42	75.8	38.1	806	0.00
7/12/2019 12:00	6	3	6	15	ND	13	43	ND	5.2	166	39	77.8	32.8	780	0.00
7/12/2019 13:00	14	7	5	15	ND	12	**415**	ND	5.0	190	44	79.7	30.1	828	0.00
7/12/2019 14:00	12	8	7	16	ND	19	32	ND	5.4	207	62	81.0	29.1	792	0.00
7/12/2019 15:00	19	10	7	15	ND	36	32	ND	4.4	216	54	83.5	25.7	743	0.00
7/12/2019 16:00	7	12	1	9	ND	22	13	ND	1.8	229	26	68.2	20.2	236	0.00
7/12/2019 17:00	7	8	5	12	ND	20	13	ND	3.2	226	67	82.1	25.3	337	0.00
7/12/2019 18:00	7	7	5	12	ND	16	23	ND	2.8	258	62	79.9	27.7	165	0.00
7/12/2019 19:00	6	9	5	9	ND	15	20	ND	2.8	263	63	78.4	30.0	121	0.00
7/12/2019 20:00	7	10	6	13	ND	20	24	ND	1.9	306	37	75.0	33.3	17	0.00
7/12/2019 21:00	7	11	9	31	ND	15	41	ND	2.3	310	9	73.3	35.3	0	0.00
7/12/2019 22:00	7	10	6	28	ND	11	31	ND	0.9	302	25	71.1	38.0	0	0.00
7/12/2019 23:00	6	7	4	35	ND	17	38	ND	2.5	306	31	70.9	39.6	0	0.00
7/13/2019 0:00	7	8	7	43	ND	10	45	ND	1.4	285	24	68.8	43.5	0	0.00
7/13/2019 1:00	7	8	6	30	ND	28	25	ND	0.6	286	24	67.5	46.2	0	0.00
7/13/2019 2:00	8	7	ND	ND	ND	ND	ND	ND	1.6	276	17	66.6	48.4	0	0.00
7/15/2019 6:00	4	9	4	14	ND	3	8	ND	0.5	269	64	64.1	42.4	104	0.00
7/15/2019 7:00	12	11	15	20	ND	12	37	ND	1.0	133	38	64.1	44.1	155	0.00
7/15/2019 8:00	9	10	15	21	ND	17	31	ND	2.0	156	61	65.0	47.9	232	0.00
7/15/2019 9:00	11	11	11	29	ND	22	32	ND	2.3	172	63	66.8	45.2	377	0.00
7/15/2019 10:00	12	11	13	33	ND	25	22	ND	1.9	227	48	67.0	42.5	242	0.00
7/15/2019 11:00	9	11	10	27	ND	25	25	ND	3.4	183	80	69.9	40.9	341	0.00
7/15/2019 12:00	11	12	10	30	ND	24	28	ND	3.4	165	19	68.8	44.2	240	0.00
7/15/2019 13:00	10	11	14	20	ND	27	31	ND	1.9	66	82	71.2	41.0	318	0.00
7/15/2019 14:00	12	12	10	21	ND	24	29	ND	3.9	197	59	69.5	43.0	146	0.00
7/15/2019 15:00	14	15	17	43	ND	27	50	ND	3.8	2	42	67.8	52.6	247	0.00
7/15/2019 16:00	14	15	15	35	ND	21	25	ND	1.6	103	78	68.8	48.8	176	0.00
7/15/2019 17:00	11	12	14	25	ND	34	27	ND	3.2	116	42	68.6	48.5	155	0.00
7/15/2019 18:00	11	12	15	53	ND	23	27	ND	3.7	44	48	66.5	55.3	100	0.00
7/15/2019 19:00	12	13	13	73	ND	23	27	ND	3.2	17	31	65.3	57.8	54	0.00
7/15/2019 20:00	12	12	10	32	ND	19	38	ND	3.1	12	28	64.0	57.0	10	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
7/15/2019 21:00	11	12	9	94	ND	20	32	ND	2.5	16	31	63.9	55.9	0	0.00
7/15/2019 22:00	12	12	10	28	ND	21	31	ND	2.0	2	47	63.4	59.5	0	0.00
7/15/2019 23:00	14	13	13	25	ND	19	26	ND	1.3	3	44	61.2	60.1	0	0.00
7/16/2019 0:00	11	13	13	26	ND	22	30	ND	1.5	325	49	62.5	61.9	0	0.00
7/16/2019 1:00	13	13	14	25	ND	20	27	ND	0.7	345	43	61.8	63.4	0	0.00
7/16/2019 2:00	13	12	14	25	ND	25	27	ND	1.2	319	47	61.4	65.6	0	0.00
7/16/2019 6:00	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/16/2019 7:00	5	8	12	17	ND	16	20	ND	3.6	89	54	60.9	65.6	272	0.00
7/16/2019 8:00	10	10	12	20	ND	19	24	ND	4.3	74	48	63.0	67.1	370	0.00
7/16/2019 9:00	12	14	15	24	ND	24	27	ND	4.4	107	45	65.8	64.0	559	0.00
7/16/2019 10:00	12	13	16	24	ND	26	40	ND	4.1	125	42	68.0	58.5	524	0.00
7/16/2019 11:00	10	10	6	14	ND	48	15	ND	2.9	200	15	54.9	39.0	649	0.00
7/16/2019 12:00	6	7	10	17	ND	19	18	ND	3.7	139	72	71.0	47.6	509	0.00
7/16/2019 13:00	8	9	9	17	ND	12	17	ND	3.3	56	84	69.7	52.3	262	0.00
7/16/2019 14:00	5	8	13	12	ND	17	14	ND	2.7	140	90	72.8	44.5	573	0.00
7/16/2019 15:00	6	7	5	11	ND	21	13	ND	2.6	228	61	73.1	40.0	417	0.00
7/16/2019 16:00	5	10	5	16	ND	15	15	ND	3.0	182	73	75.4	37.3	477	0.00
7/16/2019 17:00	9	10	10	23	ND	25	28	ND	3.0	307	68	71.4	45.5	98	0.00
7/16/2019 18:00	6	8	6	15	ND	29	19	ND	1.6	231	76	71.2	49.5	226	0.00
7/16/2019 19:00	13	7	11	30	ND	20	27	ND	0.4	291	61	68.9	53.1	54	0.00
7/16/2019 20:00	10	10	10	32	ND	73	31	ND	0.8	316	33	66.1	55.6	14	0.00
7/16/2019 21:00	5	8	10	21	ND	28	26	ND	1.2	359	19	64.8	53.5	0	0.00
7/16/2019 22:00	7	7	8	22	ND	45	33	ND	1.0	7	14	64.8	53.1	0	0.00
7/16/2019 23:00	9	6	7	42	ND	32	25	ND	1.5	357	30	64.3	57.3	0	0.00
7/17/2019 0:00	7	7	9	30	ND	37	28	ND	2.0	348	20	63.0	64.0	0	0.00
7/17/2019 1:00	8	6	7	40	ND	29	23	ND	1.3	339	39	62.8	65.1	0	0.00
7/17/2019 2:00	8	7	9	14	ND	13	15	ND	1.1	348	32	62.3	66.9	0	0.00
7/17/2019 6:00	9	8	10	21	ND	20	21	ND	1.8	153	67	59.2	69.6	60	0.00
7/17/2019 7:00	9	8	11	28	ND	11	20	ND	1.9	89	81	58.8	75.0	116	0.00
7/17/2019 8:00	11	13	13	19	ND	21	24	ND	2.9	160	30	59.6	67.9	198	0.00
7/17/2019 9:00	15	12	15	23	ND	27	31	ND	4.2	176	21	61.5	64.8	207	0.00
7/17/2019 10:00	14	11	12	30	ND	24	29	ND	3.8	179	68	62.0	62.4	158	0.00
7/17/2019 11:00	13	11	11	34	ND	28	29	ND	4.0	180	54	62.5	62.9	237	0.00
7/17/2019 12:00	14	14	12	55	ND	33	37	ND	3.5	185	71	63.3	60.1	203	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
7/17/2019 13:00	14	12	9	25	ND	28	31	ND	4.7	188	37	64.9	55.2	357	0.00
7/17/2019 14:00	11	13	12	20	ND	28	25	ND	3.7	228	65	66.0	52.0	250	0.00
7/17/2019 15:00	12	13	11	19	ND	26	27	ND	4.2	189	48	67.1	49.0	220	0.00
7/17/2019 16:00	8	10	11	18	ND	25	23	ND	3.8	189	62	67.8	48.5	165	0.00
7/17/2019 17:00	5	7	5	12	ND	13	18	ND	1.6	207	89	66.1	54.3	69	0.00
7/17/2019 18:00	6	7	7	12	ND	9	14	ND	1.7	148	33	66.2	54.5	63	0.01
7/17/2019 19:00	7	9	7	12	ND	13	20	ND	0.9	288	63	64.4	64.3	39	0.01
7/17/2019 20:00	7	8	6	15	ND	14	15	ND	2.4	198	63	65.6	57.9	12	0.01
7/17/2019 21:00	7	7	4	12	ND	9	20	ND	2.0	196	46	65.9	55.3	0	0.01
7/17/2019 22:00	3	3	1	2	ND	3	4	ND	2.7	236	40	50.4	44.5	0	0.01
7/17/2019 23:00	1	1	2	2	ND	5	4	ND	3.7	258	39	62.5	61.3	0	0.01
7/18/2019 0:00	0	1	2	1	ND	4	5	ND	2.7	265	47	60.4	66.0	0	0.01
7/18/2019 1:00	0	1	1	2	ND	3	2	ND	1.8	251	61	58.2	71.0	0	0.00
7/18/2019 2:00	2	1	1	1	ND	2	3	ND	1.8	256	50	57.2	73.0	0	0.00
7/18/2019 6:00	1	2	2	5	ND	5	5	ND	3.0	249	86	58.2	66.4	155	0.00
7/18/2019 7:00	2	5	7	7	ND	7	13	ND	3.0	290	73	60.9	56.4	311	0.00
7/18/2019 8:00	4	5	5	10	ND	8	11	ND	3.9	291	52	63.6	47.1	494	0.00
7/18/2019 9:00	5	4	2	8	ND	9	12	ND	4.5	238	61	65.4	43.4	636	0.00
7/18/2019 10:00	3	4	3	9	ND	8	15	ND	5.0	232	64	67.3	39.4	760	0.00
7/18/2019 11:00	3	5	5	11	ND	13	22	ND	5.7	247	60	69.0	34.1	859	0.00
7/18/2019 12:00	4	6	6	9	ND	13	15	ND	5.4	254	59	70.9	25.0	855	0.00
7/18/2019 13:00	5	8	10	19	ND	13	11	ND	6.9	272	38	71.6	17.9	855	0.00
7/18/2019 14:00	4	6	3	11	ND	10	18	ND	7.0	272	38	72.2	15.5	796	0.00
7/18/2019 15:00	6	7	6	14	ND	10	17	ND	5.4	253	58	73.0	19.3	655	0.00
7/18/2019 16:00	7	8	4	12	ND	13	20	ND	5.5	258	58	73.6	18.6	625	0.00
7/18/2019 17:00	6	8	6	11	ND	9	16	ND	5.1	274	62	73.0	17.4	448	0.00
7/18/2019 18:00	7	8	7	13	ND	12	17	ND	5.2	263	42	72.2	18.9	296	0.00
7/18/2019 19:00	10	11	13	19	ND	17	23	ND	4.3	248	58	68.7	26.1	68	0.00
7/18/2019 20:00	9	11	9	18	ND	14	22	ND	3.1	265	54	64.8	31.2	7	0.00
7/18/2019 21:00	8	6	4	11	ND	11	13	ND	2.8	274	32	62.6	32.4	0	0.00
7/18/2019 22:00	2	5	4	10	ND	10	11	ND	2.8	297	24	60.7	34.8	0	0.00
7/18/2019 23:00	5	5	5	10	ND	9	12	ND	5.1	315	42	60.4	34.3	0	0.00
7/19/2019 0:00	2	4	4	7	ND	6	9	ND	5.2	1	19	59.7	36.7	0	0.00
7/19/2019 1:00	4	3	6	7	ND	6	6	ND	2.0	308	68	57.5	41.2	0	0.00
7/19/2019 2:00	3	2	3	6	ND	5	7	ND	3.2	325	47	56.4	45.3	0	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME (PST)	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	WD Sigma deg	TEMP °F	RH %	SOLAR w/m^2	DAILY PCP inches
7/19/2019 6:00	4	3	6	6	ND	8	8	ND	2.2	308	55	55.6	47.3	111	0.00
7/19/2019 7:00	4	4	6	5	ND	7	8	ND	1.8	197	55	59.2	45.3	293	0.00
7/19/2019 8:00	2	4	4	7	ND	3	10	ND	3.9	231	67	60.6	44.8	456	0.00
7/19/2019 9:00	3	5	2	6	ND	5	4	ND	3.3	249	56	62.3	38.8	605	0.00
7/19/2019 10:00	5	1	5	6	ND	6	SSD	ND	4.3	211	48	64.2	35.6	740	0.00
7/19/2019 11:00	3	SSD	1	7	ND	8	SSD	ND	4.8	228	62	66.3	30.9	822	0.00
7/19/2019 12:00	3	SSD	4	7	ND	9	SSD	ND	4.6	253	60	66.7	31.2	688	0.00
7/19/2019 13:00	3	SSD	3	5	ND	4	SSD	ND	4.4	231	68	67.3	29.3	661	0.00
7/19/2019 14:00	3	SSD	6	8	ND	6	SSD	ND	5.4	214	35	70.4	25.8	830	0.00
7/19/2019 15:00	2	SSD	SSD	6	ND	3	SSD	ND	4.6	251	51	70.0	25.4	523	0.00
7/19/2019 16:00	SSD	SSD	SSD	8	ND	SSD	SSD	ND	4.6	233	53	71.2	23.7	622	0.00
7/19/2019 17:00	SSD	SSD	SSD	4	ND	SSD	SSD	ND	4.4	240	55	71.3	24.0	399	0.00
7/19/2019 18:00	SSD	SSD	SSD	5	ND	SSD	SSD	ND	3.1	281	57	69.7	25.0	204	0.00
7/19/2019 19:00	SSD	SSD	SSD	6	ND	SSD	SSD	ND	2.2	257	36	67.5	27.5	68	0.00
7/19/2019 20:00	SSD	SSD	SSD	8	ND	SSD	SSD	ND	1.5	337	20	64.7	30.8	9	0.00
7/19/2019 21:00	SSD	SSD	SSD	7	ND	SSD	SSD	ND	1.1	342	12	63.6	31.1	0	0.00
7/19/2019 22:00	SSD	SSD	SSD	5	ND	SSD	SSD	ND	2.8	17	14	63.2	33.8	0	0.00
7/19/2019 23:00	SSD	SSD	SSD	6	ND	SSD	SSD	ND	3.6	348	60	62.4	36.5	0	0.00
7/20/2019 0:00	SSD	SSD	SSD	8	ND	SSD	SSD	ND	1.5	291	24	58.7	42.2	0	0.00
7/20/2019 1:00	SSD	SSD	SSD	6	ND	SSD	SSD	ND	1.1	303	12	58.7	42.2	0	0.00
7/20/2019 2:00	SSD	SSD	SSD	8	ND	SSD	SSD	ND	1.0	308	10	58.3	44.0	0	0.00
	**** Site activities suspended from July 22 - July 24 for safety stand down**														
7/25/2019 6:00	ND	ND	3	29	ND	ND	3	ND	0.8	103	21	61.6	45.6	135	0.00
7/25/2019 7:00	15 C	10	17	31	ND	7	30	ND	2.3	118	42	63.3	46.0	291	0.00
7/25/2019 8:00	19 C	15	17	24	ND	25	22 C	ND	2.4	129	85	65.8	42.9	457	0.00
7/25/2019 9:00	23	23	18 C	49 C	ND	41	51	ND	CAL	CAL	CAL	68.3	36.6	596	CAL
7/25/2019 10:00	111	63	115	80	ND	119	225	ND	CAL	CAL	CAL	71.1	33.8	744	CAL
7/25/2019 11:00	21	22	25	49	ND	37	41	ND	3.5	225	50	73.4	28.0	814	0.00
7/25/2019 12:00	13	16	17	39	ND	29	42	ND	3.9	226	58	76.1	21.4	855	0.00
7/25/2019 13:00	12	15	14	45	ND	30 C	32	CAL	4.4	202	51	78.4	17.7	850	0.00
7/25/2019 14:00	11	15	13	41	CAL	23	25	CAL	4.3	252	83	80.1	17.8	799	0.00
7/25/2019 15:00	17	16 C	13	42	ND	28	47	ND	4.5	197	58	81.5	17.1	704	0.00
7/25/2019 16:00	10	13	8	26	ND	21	26	ND	4.0	192	55	82.4	17.3	577	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
7/25/2019 17:00	9	10	7	21	ND	16	23	ND	4.1	198	44	82.2	18.0	426	0.00
7/25/2019 18:00	8	9	4	14	ND	14	18	ND	3.1	211	40	82.1	18.4	256	0.00
7/25/2019 19:00	7	10	5	27	ND	13	48	ND	1.2	278	38	78.7	21.5	53	0.00
7/25/2019 20:00	7	12	7	53	ND	16	56	ND	1.3	309	12	74.9	24.8	5	0.00
7/25/2019 21:00	6	16	7	21	ND	20	56	ND	0.9	294	9	73.1	26.3	0	0.00
7/25/2019 22:00	9	14	10	16	ND	21	34	ND	1.6	321	14	72.7	26.2	0	0.00
7/25/2019 23:00	8	11	10	17	ND	17	22	ND	2.0	299	14	72.7	25.5	0	0.00
7/26/2019 0:00	12	11	12	19	ND	18	26	ND	2.1	297	9	72.1	26.0	0	0.00
7/26/2019 1:00	10	13	12	19	ND	19	25	ND	0.8	297	22	69.9	28.7	0	0.00
7/26/2019 2:00	13	12	14	21	ND	19	27	ND	1.2	353	14	68.4	30.7	0	0.00
7/26/2019 6:00	17	17	18	38	ND	32	58	ND	1.3	62	34	69.3	32.8	132	0.00
7/26/2019 7:00	16	20	26	59	ND	40	47	ND	1.4	101	38	72.2	33.9	292	0.00
7/26/2019 8:00	19	15	23	40	ND	32	44	ND	2.2	164	70	70.3	32.1	484	0.00
7/26/2019 9:00	17	14	26	24	ND	59	40	ND	2.8	162	78	77.5	30.5	609	0.00
7/26/2019 10:00	16	16	20	26	ND	34	33	ND	3.4	166	46	80.4	26.5	729	0.00
7/26/2019 11:00	21	17	22	29	ND	34	47	ND	3.9	185	41	82.3	23.5	814	0.00
7/26/2019 12:00	15	16	12	26	ND	28	34	ND	4.1	175	55	84.5	19.7	854	0.00
7/26/2019 13:00	30	30	20	38	ND	54	82	ND	4.0	233	72	85.9	18.8	844	0.00
7/26/2019 14:00	23	28	25	44	ND	53	59	ND	4.6	181	41	87.4	17.8	792	0.00
7/26/2019 15:00	21	24	21	36	ND	45	56	ND	4.2	192	78	89.3	16.3	695	0.00
7/26/2019 16:00	20	27	25	35	ND	58	45	ND	4.7	192	43	89.7	13.9	570	0.00
7/26/2019 17:00	22	26	21	38	ND	55	53	ND	4.4	225	51	89.9	13.4	417	0.00
7/26/2019 18:00	46	35	22	44	ND	50	65	ND	3.9	258	61	88.4	15.2	245	0.00
7/26/2019 19:00	26	52	22	40	ND	50	70	ND	3.1	268	67	84.3	18.2	56	0.00
7/26/2019 20:00	30	52	28	49	ND	53	83	ND	1.2	279	72	79.9	22.2	6	0.00
7/26/2019 21:00	24	33	28	49	ND	54	48	ND	0.9	268	67	77.6	26.3	0	0.00
7/26/2019 22:00	ND	32	ND	1	ND	9	ND	ND	1.5	314	55	76.8	28.3	0	0.00
7/26/2019 23:00	ND	31	ND	ND	ND	ND	ND	ND	2.4	255	57	76.5	27.0	0	0.00
7/27/2019 0:00	ND	32	ND	ND	ND	ND	ND	ND	1.8	290	40	74.5	28.9	0	0.00
7/27/2019 1:00	ND	29	ND	ND	ND	ND	ND	ND	1.0	283	18	71.9	32.8	0	0.00
7/27/2019 2:00	ND	29	ND	ND	ND	ND	ND	ND	1.4	273	13	70.0	34.9	0	0.00
7/29/2019 6:00	ND	15	ND	ND	ND	ND	13	ND	0.6	185	54	66.8	38.2	125	0.00
7/29/2019 7:00	ND	17	ND	ND	ND	ND	35	ND	1.7	128	57	69.3	36.2	279	0.00
7/29/2019 8:00	ND	15	ND	ND	ND	4	31	ND	2.1	208	85	72.3	36.2	447	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
7/29/2019 9:00	10	11	9	8	ND	14	43	ND	3.3	174	35	73.9	35.0	601	0.00
7/29/2019 10:00	11	11	11	26	ND	20	27	ND	3.5	223	39	77.2	31.8	728	0.00
7/29/2019 11:00	10	11	12	21	ND	19	26	ND	3.8	201	47	80.2	26.3	819	0.00
7/29/2019 12:00	8	9	9	21	ND	16	29	ND	4.6	192	49	81.8	22.4	845	0.00
7/29/2019 13:00	14	9	7	16	ND	27	31	ND	4.8	186	33	82.7	20.4	814	0.00
7/29/2019 14:00	7	12	8	22	ND	35	55	ND	4.4	246	65	84.2	18.0	786	0.00
7/29/2019 15:00	9	10	10	15	ND	18	22	ND	4.6	171	40	84.7	16.4	698	0.00
7/29/2019 16:00	8	13	11	21	ND	14	18	ND	4.0	167	52	85.5	16.1	567	0.00
7/29/2019 17:00	33	11	10	20	ND	20	18	ND	3.7	180	61	85.5	16.3	413	0.00
7/29/2019 18:00	11	11	7	22	ND	18	27	ND	2.8	189	62	85.6	15.9	240	0.00
7/29/2019 19:00	11	11	11	29	ND	16	35	ND	1.5	283	59	82.0	18.4	43	0.00
7/29/2019 20:00	11	13	11	43	ND	26	40	ND	1.7	308	33	78.0	21.4	4	0.00
7/29/2019 21:00	13	14	14	35	ND	29	48	ND	3.2	310	14	76.4	24.4	0	0.00
7/29/2019 22:00	12	13	12	38	ND	17	38	ND	3.1	315	8	75.2	24.5	0	0.00
7/29/2019 23:00	11	12	10	33	ND	20	31	ND	2.0	299	17	74.0	25.2	0	0.00
7/30/2019 0:00	10	14	10	29	ND	22	44	ND	1.3	291	22	72.0	26.4	0	0.00
7/30/2019 1:00	12	13	12	35	ND	18	36	ND	1.4	301	16	70.0	29.4	0	0.00
7/30/2019 2:00	16	15	14	29	ND	27	41	ND	2.9	304	26	70.7	31.4	0	0.00
7/30/2019 6:00	25	28	22	38	ND	43	48	ND	1.8	151	53	64.0	42.2	112	0.00
7/30/2019 7:00	24	24	24	35	ND	44	48	ND	2.8	132	39	65.6	44.8	268	0.00
7/30/2019 8:00	19	21	21	31	ND	26	47	ND	3.2	121	53	68.2	43.9	440	0.00
7/30/2019 9:00	17	21	18	28	ND	24	49	ND	4.2	162	29	69.7	42.7	590	0.00
7/30/2019 10:00	21	19	18	28	ND	24	55	ND	4.2	163	54	74.1	37.7	711	0.00
7/30/2019 11:00	20	20	18	44	ND	32	48	ND	6.1	171	33	76.5	31.7	799	0.00
7/30/2019 12:00	21	19	19	34	ND	41	69	ND	5.2	188	41	79.2	26.4	842	0.00
7/30/2019 13:00	17	16	14	29	ND	30	88	ND	5.4	197	44	80.9	21.9	840	0.00
7/30/2019 14:00	60	19	11	31	ND	25	83	ND	4.8	203	48	82.4	19.3	787	0.00
7/30/2019 15:00	15	18	15	39	ND	24	57	ND	4.8	192	40	83.6	17.7	693	0.00
7/30/2019 16:00	14	19	15	25	ND	12	32	ND	5.4	191	28	83.3	17.7	559	0.00
7/30/2019 17:00	15	14	13	24	ND	25	32	ND	5.2	188	30	82.9	17.3	405	0.00
7/30/2019 18:00	16	13	10	27	ND	18	32	ND	4.3	191	25	82.3	17.6	236	0.00
7/30/2019 19:00	11	14	11	44	ND	28	31	ND	2.2	218	70	79.1	19.7	34	0.00
7/30/2019 20:00	13	16	12	34	ND	27	71	ND	1.3	292	20	75.3	23.2	4	0.00
7/30/2019 21:00	12	17	12	31	ND	18	60	ND	2.3	301	30	73.8	24.6	0	0.00
7/30/2019 22:00	14	13	11	49	ND	18	33	ND	1.8	319	25	72.7	25.6	0	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
7/30/2019 23:00	19	18	19	51	ND	28	50	ND	2.5	310	27	71.9	29.2	0	0.00
7/31/2019 0:00	19	20	21	41	ND	37	62	ND	2.0	301	27	70.1	33.5	0	0.00
7/31/2019 1:00	22	22	19	40	ND	39	50	ND	1.3	277	18	68.4	35.4	0	0.00
7/31/2019 2:00	20	24	19	36	ND	34	50	ND	0.6	299	21	66.4	39.6	0	0.00
7/31/2019 6:00	16	31	20	37	ND	29	37	ND	1.2	63	70	65.5	42.5	116	0.00
7/31/2019 7:00	18	20	22	36	ND	40	44	ND	3.4	109	44	66.9	38.3	267	0.00
7/31/2019 8:00	16	20	21	32	ND	34	42	ND	4.0	100	55	68.7	35.7	431	0.00
7/31/2019 9:00	15	17	17	27	ND	25	38	ND	3.7	128	48	72.7	34.0	582	0.00
7/31/2019 10:00	14	14	15	26	ND	37	38	ND	4.0	172	44	75.1	32.6	705	0.00
7/31/2019 11:00	16	13	13	20	ND	48	28	ND	4.1	176	40	78.1	30.1	793	0.00
7/31/2019 12:00	13	13	13	26	ND	36	44	ND	4.6	174	58	80.6	27.8	836	0.00
7/31/2019 13:00	15	14	10	28	ND	38	79	ND	5.7	181	45	82.3	24.7	828	0.00
7/31/2019 14:00	19	17	14	33	ND	53	94	ND	5.6	176	41	83.7	22.0	775	0.00
7/31/2019 15:00	20	16	11	35	ND	51	81	ND	5.0	176	44	85.3	19.3	686	0.00
7/31/2019 16:00	12	12	9	31	ND	26	49	ND	5.0	180	57	85.9	18.6	561	0.00
7/31/2019 17:00	10	15	8	27	ND	16	83	ND	5.1	180	38	84.9	19.7	406	0.00
7/31/2019 18:00	11	15	9	23	ND	22	63	ND	4.2	192	42	84.3	21.4	238	0.00
7/31/2019 19:00	12	12	9	20	ND	17	35	ND	2.5	207	76	80.8	23.8	29	0.00
7/31/2019 20:00	16	16	13	28	ND	37	44	ND	1.9	303	50	76.5	28.3	3	0.00
7/31/2019 21:00	10	14	12	27	ND	23	31	ND	1.8	315	28	74.6	31.6	0	0.00
7/31/2019 22:00	10	10	9	22	ND	21	29	ND	2.4	311	20	73.3	35.0	0	0.00
7/31/2019 23:00	12	13	14	30	ND	22	37	ND	1.7	310	21	72.3	37.8	0	0.00
8/1/2019 0:00	13	16	14	28	ND	26	58	ND	1.5	302	28	71.2	39.5	0	0.00
8/1/2019 1:00	14	16	13	34	ND	27	43	ND	1.0	292	16	70.9	40.0	0	0.00
8/1/2019 2:00	15	16	14	26	ND	26	42	ND	0.8	256	27	69.3	42.3	0	0.00
8/1/2019 6:00	16	15	14	25	ND	33	33	ND	1.3	135	50	67.0	44.2	115	0.00
8/1/2019 7:00	16	20	15	27	ND	28	33	ND	2.2	116	58	70.3	40.9	264	0.00
8/1/2019 8:00	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL
8/1/2019 9:00	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL
8/1/2019 10:00	30	25	20	38	ND	42	48	ND	4.4	157	7	61.2	26.8	594	0.00
8/1/2019 11:00	26	25	27	45	ND	44	59	ND	4.8	188	58	79.7	31.7	792	0.00
8/1/2019 12:00	21	20	20	37	ND	49	82	ND	5.8	176	38	81.8	26.7	839	0.00
8/1/2019 13:00	19	20	13	32	ND	45	60	ND	5.6	203	64	83.7	23.2	835	0.00
8/1/2019 14:00	23	22	18	28	ND	47	111	ND	6.4	182	32	85.0	21.5	783	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	Sigma deg	TEMP °F	RH %	SOLAR w/m^2	PCP inches
8/1/2019 15:00	21	21	14	27	ND	54	86	ND	5.5	188	34	86.5	18.8	689	0.00
8/1/2019 16:00	18	17	19	27	ND	35	48	ND	5.5	191	49	86.8	17.8	560	0.00
8/1/2019 17:00	17	13	14	24	ND	28	38	ND	4.7	191	59	86.9	16.6	408	0.00
8/1/2019 18:00	13	13	10	21	ND	20	30	ND	4.4	186	35	85.7	17.3	241	0.00
8/1/2019 19:00	16	14	10	24	ND	27	30	ND	2.6	142	57	81.9	20.2	27	0.00
8/1/2019 20:00	19	16	15	46	ND	29	57	ND	1.4	282	21	77.7	23.7	4	0.00
8/1/2019 21:00	15	22	19	30	ND	31	63	ND	1.8	308	13	75.8	27.2	0	0.00
8/1/2019 22:00	15	21	16	42	ND	36	80	ND	1.4	307	21	75.1	29.1	0	0.00
8/1/2019 23:00	13	20	15	36	ND	32	66	ND	1.8	299	18	74.6	29.6	0	0.00
8/2/2019 0:00	12	20	13	35	ND	28	84	ND	2.3	290	17	75.1	29.6	0	0.00
8/2/2019 1:00	15	14	11	30	ND	28	47	ND	1.6	263	19	74.8	31.4	0	0.00
8/2/2019 2:00	12	13	13	31	ND	20	29	ND	0.4	281	37	73.1	33.4	0	0.00
8/2/2019 6:00	7	11	10	42	ND	19	23	ND	0.1	265	29	68.5	39.7	89	0.00
8/2/2019 7:00	9	11	11	19	ND	23	36	ND	1.6	166	49	73.8	34.1	269	0.00
8/2/2019 8:00	8	11	11	22	ND	16	25	ND	3.3	171	47	74.7	33.2	426	0.00
8/2/2019 9:00	20	17	20	38	ND	32	50	ND	3.9	196	37	76.0	32.4	574	0.00
8/2/2019 10:00	23	18	14	42	ND	70	69	ND	5.0	198	46	78.9	29.5	722	0.00
8/2/2019 11:00	13	10	10	18	ND	64	31	ND	5.7	192	53	80.6	28.3	783	0.00
8/2/2019 12:00	12	12	9	22	ND	36	68	ND	5.5	197	43	82.9	25.9	832	0.00
8/2/2019 13:00	20	12	6	32	ND	37	81	ND	5.6	196	53	84.3	24.9	829	0.00
8/2/2019 14:00	23	20	8	49	ND	53	87	ND	5.3	241	64	85.4	24.2	704	0.00
8/2/2019 15:00	20	22	8	42	ND	46	67	ND	5.2	235	69	83.6	24.8	426	0.00
8/2/2019 16:00	11	17	7	30	ND	46	34	ND	5.3	252	70	83.2	29.7	387	0.00
8/2/2019 17:00	9	9	4	22	ND	20	27	ND	4.8	258	52	79.8	33.6	152	0.00
8/2/2019 18:00	7	6	3	24	ND	10	28	ND	4.6	257	51	79.0	33.5	155	0.00
8/2/2019 19:00	8	6	7	19	ND	12	31	ND	4.0	258	38	76.7	35.6	39	0.00
8/2/2019 20:00	10	10	6	22	ND	22	60	ND	2.8	276	46	73.7	37.7	3	0.00
8/2/2019 21:00	14	15	12	27	ND	22	49	ND	2.4	280	32	71.7	36.8	0	0.00
8/2/2019 22:00	65	34	35	53	ND	60	129	ND	2.8	282	37	70.4	32.6	0	0.00
8/2/2019 23:00	327	194	206	412	ND	528	806	ND	3.2	294	27	68.7	34.5	0	0.00
8/3/2019 0:00	191	583	106	78	ND	148	170	ND	2.2	310	42	66.3	40.5	0	0.00
8/3/2019 1:00	ND	477	ND	ND	ND	ND	ND	ND	1.1	271	25	63.5	44.3	0	0.00
8/3/2019 2:00	ND	176	ND	ND	ND	ND	ND	ND	2.4	284	16	62.4	45.8	0	0.00
8/5/2019 6:00	4	ND	12	22	ND	ND	63	ND	0.4	231	28	69.5	28.5	105	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	Sigma deg	TEMP °F	RH %	SOLAR w/m^2	PCP inches
8/5/2019 7:00	16	ND	23	39	ND	ND	82	ND	1.3	223	15	71.0	29.1	249	0.00
8/5/2019 8:00	22	ND	23	42	ND	ND	46	ND	1.7	212	35	73.2	28.8	403	0.00
8/5/2019 9:00	40	14	23	36	ND	27	44	ND	1.7	200	28	77.8	26.7	563	0.00
8/5/2019 10:00	25	22	21	33	ND	38	43	ND	2.6	212	40	80.9	24.4	685	0.00
8/5/2019 11:00	22	20	21	36	ND	33	45	ND	3.1	219	54	84.2	21.8	755	0.00
8/5/2019 12:00	181	158	180	221	ND	250	344	ND	4.2	217	41	85.9	18.2	710	0.00
8/5/2019 13:00	312	342	295	423	ND	557	659	ND	3.9	254	64	86.3	16.7	573	0.00
8/5/2019 14:00	154	239	1	97	ND	126	289	ND	3.5	277	52	87.5	15.9	539	0.00
8/5/2019 15:00	ND	ND	ND	ND	ND	ND	ND	ND	3.9	284	65	88.4	15.9	505	0.00
8/5/2019 16:00	ND	ND	ND	ND	ND	ND	ND	ND	2.4	274	67	88.9	15.2	336	0.00
8/5/2019 17:00	ND	ND	ND	ND	ND	ND	ND	ND	2.5	302	45	88.0	15.9	219	0.00
8/5/2019 18:00	ND	ND	ND	ND	ND	ND	ND	ND	1.3	301	23	86.3	17.9	106	0.00
8/5/2019 19:00	ND	ND	ND	ND	ND	ND	ND	ND	0.9	302	7	83.3	20.4	37	0.00
8/5/2019 20:00	ND	ND	ND	ND	ND	ND	ND	ND	1.5	311	6	81.9	20.3	4	0.00
8/5/2019 21:00	ND	ND	ND	ND	ND	ND	ND	ND	2.0	297	14	81.1	21.1	0	0.00
8/5/2019 22:00	ND	ND	ND	ND	ND	ND	ND	ND	2.8	303	5	80.4	22.1	0	0.00
8/5/2019 23:00	ND	ND	ND	ND	ND	ND	ND	ND	2.1	295	14	79.6	22.4	0	0.00
8/6/2019 0:00	ND	ND	ND	ND	ND	ND	ND	ND	1.0	285	13	77.3	24.4	0	0.00
8/6/2019 1:00	ND	ND	ND	ND	ND	ND	ND	ND	1.1	249	36	75.7	26.7	0	0.00
8/6/2019 2:00	ND	ND	ND	ND	ND	ND	ND	ND	0.8	272	14	73.9	27.6	0	0.00
8/6/2019 6:00	ND	ND	ND	ND	ND	ND	ND	ND	0.1	36	18	72.8	31.4	78	0.00
8/6/2019 7:00	ND	204	ND	ND	ND	ND	ND	ND	0.8	87	36	75.4	31.3	221	0.00
8/6/2019 8:00	ND	195	ND	ND	ND	ND	ND	ND	2.0	111	36	79.7	28.6	396	0.00
8/6/2019 9:00	ND	146	ND	ND	ND	ND	ND	ND	3.0	126	47	82.1	24.9	550	0.00
8/6/2019 10:00	ND	147	ND	ND	ND	ND	ND	ND	2.8	193	51	84.4	24.6	661	0.00
8/6/2019 11:00	ND	115	ND	ND	ND	ND	ND	ND	3.2	216	40	87.2	21.8	718	0.00
8/6/2019 12:00	ND	266	ND	ND	ND	ND	ND	ND	4.2	218	64	89.1	21.0	769	0.00
8/6/2019 13:00	ND	56	ND	ND	ND	ND	ND	ND	5.4	249	51	91.1	18.9	812	0.00
8/6/2019 14:00	ND	56	ND	77	ND	96	ND	ND	5.3	292	51	92.3	16.3	760	0.00
8/6/2019 15:00	ND	25	ND	ND	ND	ND	ND	ND	5.1	260	55	93.3	16.1	652	0.00
8/6/2019 16:00	ND	ND	ND	ND	ND	ND	ND	ND	4.2	261	62	92.3	13.8	343	0.00
8/6/2019 17:00	ND	ND	ND	ND	ND	ND	ND	ND	2.8	283	38	91.2	13.7	208	0.00
8/6/2019 18:00	ND	ND	ND	ND	ND	ND	ND	ND	1.5	286	28	88.9	16.7	77	0.00
8/6/2019 19:00	ND	ND	ND	ND	ND	ND	ND	ND	0.9	318	14	86.4	17.4	24	0.00
8/6/2019 20:00	ND	ND	ND	ND	ND	ND	ND	ND	1.6	311	10	85.5	16.5	2	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	Sigma deg	TEMP °F	RH %	SOLAR w/m^2	PCP inches
8/6/2019 21:00	ND	ND	ND	ND	ND	ND	ND	ND	1.8	310	10	84.9	15.9	0	0.00
8/6/2019 22:00	ND	ND	ND	ND	ND	ND	ND	ND	2.5	294	20	83.7	16.6	0	0.00
8/6/2019 23:00	ND	ND	ND	ND	ND	ND	ND	ND	1.9	295	13	81.8	20.4	0	0.00
8/7/2019 0:00	ND	ND	ND	ND	ND	ND	ND	ND	2.8	296	22	83.2	18.3	0	0.00
8/7/2019 1:00	ND	ND	ND	ND	ND	ND	ND	ND	2.2	272	66	82.0	18.2	0	0.00
8/7/2019 2:00	ND	ND	ND	ND	ND	ND	ND	ND	3.7	316	19	81.8	17.6	0	0.00
8/7/2019 6:00	ND	ND	ND	ND	ND	ND	ND	ND	0.3	56	43	73.6	26.8	74	0.00
8/7/2019 7:00	ND	28	ND	ND	ND	ND	ND	ND	1.2	102	33	78.2	25.2	240	0.00
8/7/2019 8:00	ND	63	ND	ND	ND	ND	ND	ND	2.6	110	42	79.9	26.6	410	0.00
8/7/2019 9:00	ND	66	ND	ND	ND	ND	ND	ND	4.0	130	30	82.2	24.9	542	0.00
8/7/2019 10:00	ND	66	ND	ND	ND	ND	ND	ND	3.5	193	47	83.7	24.8	596	0.00
8/7/2019 11:00	ND	63	ND	ND	ND	ND	ND	ND	2.8	221	39	84.8	23.8	602	0.00
8/7/2019 12:00	35	64	48	83	ND	93	82	ND	3.2	204	43	88.5	16.1	650	0.00
8/7/2019 13:00	139	158	136	224	ND	233	**304**	ND	3.5	242	43	90.5	12.0	584	0.00
8/7/2019 14:00	57	188	110	218	ND	132	**270**	ND	3.5	265	58	92.9	9.4	549	0.00
8/7/2019 15:00	ND	64	ND	ND	ND	ND	ND	ND	3.0	290	59	91.2	10.2	273	0.00
8/7/2019 16:00	ND	ND	ND	ND	ND	ND	ND	ND	2.3	260	58	91.0	10.5	191	0.00
8/7/2019 17:00	ND	ND	ND	ND	ND	ND	ND	ND	2.3	282	47	89.9	11.5	106	0.00
8/7/2019 18:00	ND	ND	ND	ND	ND	ND	ND	ND	1.4	325	37	88.5	12.7	62	0.00
8/7/2019 19:00	ND	ND	ND	ND	ND	ND	ND	ND	1.8	335	24	87.7	13.2	22	0.00
8/7/2019 20:00	ND	ND	ND	ND	ND	ND	ND	ND	1.9	283	20	86.5	14.0	2	0.00
8/7/2019 21:00	ND	ND	ND	ND	ND	ND	ND	ND	1.8	311	21	85.2	15.6	0	0.00
8/7/2019 22:00	ND	ND	ND	ND	ND	ND	ND	ND	1.2	280	40	83.1	22.2	0	0.00
8/7/2019 23:00	ND	ND	ND	ND	ND	ND	ND	ND	1.0	309	41	81.8	23.1	0	0.00
8/8/2019 0:00	ND	ND	ND	ND	ND	ND	ND	ND	2.2	295	9	80.8	22.8	0	0.00
8/8/2019 1:00	ND	ND	ND	ND	ND	ND	ND	ND	2.2	289	16	79.8	23.4	0	0.00
8/8/2019 2:00	ND	ND	ND	ND	ND	ND	ND	ND	3.8	332	43	81.7	21.3	0	0.00
8/8/2019 6:00	ND	188	ND	ND	ND	ND	ND	ND	0.9	309	45	73.8	30.8	76	0.00
8/8/2019 7:00	ND	197	ND	ND	ND	ND	ND	ND	0.8	121	48	77.9	28.1	217	0.00
8/8/2019 8:00	ND	160	ND	ND	ND	ND	ND	ND	2.4	111	52	79.7	28.9	374	0.00
8/8/2019 9:00	ND	126	ND	ND	ND	ND	ND	ND	3.6	145	40	80.0	28.4	531	0.00
8/8/2019 10:00	ND	98	ND	ND	ND	ND	ND	ND	4.2	124	34	86.1	20.4	667	0.00
8/8/2019 11:00	ND	92	ND	ND	ND	ND	ND	ND	4.3	134	39	88.1	17.4	585	0.00
8/8/2019 12:00	ND	87	ND	ND	ND	ND	ND	ND	3.3	202	72	88.6	18.6	571	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	Sigma deg	TEMP °F	RH %	SOLAR w/m^2	PCP inches
8/8/2019 13:00	ND	85	ND	ND	ND	ND	ND	ND	4.1	185	41	89.3	18.4	506	0.00
8/8/2019 14:00	ND	99	ND	ND	ND	ND	ND	ND	2.8	220	56	89.9	15.2	372	0.00
8/8/2019 15:00	ND	95	ND	ND	ND	ND	ND	ND	3.2	191	46	91.6	13.8	410	0.00
8/8/2019 16:00	ND	117	ND	ND	ND	ND	ND	ND	3.6	210	47	90.9	17.0	287	0.00
8/8/2019 17:00	ND	122	ND	ND	ND	ND	ND	ND	3.4	181	41	88.9	23.6	160	0.00
8/8/2019 18:00	ND	107	ND	ND	ND	ND	ND	ND	2.3	177	62	86.5	23.6	52	0.00
8/8/2019 19:00	ND	246	ND	ND	ND	ND	ND	ND	3.7	275	39	84.0	23.2	15	0.00
8/8/2019 20:00	ND	278	ND	ND	ND	ND	ND	ND	2.7	292	46	80.8	29.6	1	0.00
8/8/2019 21:00	ND	ND	ND	ND	ND	ND	ND	ND	2.4	292	45	77.8	34.6	0	0.00
8/8/2019 22:00	ND	ND	ND	ND	ND	ND	ND	ND	4.3	305	14	76.9	35.7	0	0.00
8/8/2019 23:00	ND	ND	ND	ND	ND	ND	ND	ND	3.0	290	29	77.7	33.0	0	0.00
8/9/2019 0:00	ND	ND	ND	ND	ND	ND	ND	ND	3.8	277	33	77.6	31.9	0	0.00
8/9/2019 1:00	ND	ND	ND	ND	ND	ND	ND	ND	2.7	288	32	76.4	34.2	0	0.00
8/9/2019 2:00	ND	ND	ND	ND	ND	ND	ND	ND	1.4	261	76	73.3	40.4	0	0.00
8/9/2019 6:00	17	10	12	25	ND	17	44	ND	2.6	239	75	70.3	52.6	12	0.00
8/9/2019 7:00	18	17	17	27	ND	39	64	ND	2.6	265	90	69.7	58.0	70	0.00
8/9/2019 8:00	14	16	17	24	ND	35	112	ND	3.2	228	56	68.1	66.1	90	0.00
8/9/2019 9:00	13	15	15	28	ND	35	111	ND	3.6	272	78	66.6	69.7	103	0.00
8/9/2019 10:00	15	14	13	23	ND	20	36	ND	2.6	277	48	66.2	70.4	106	0.00
8/9/2019 11:00	16	17	17	29	ND	29	40	ND	2.1	201	37	65.5	75.2	100	0.00
8/9/2019 12:00	18	20	21	35	ND	36	50	ND	1.4	255	53	62.5	87.4	67	0.04
8/9/2019 13:00	15	22	19	38	ND	40	40	ND	0.8	298	46	62.2	86.1	86	0.06
8/9/2019 14:00	34	42	37	71	ND	74	87	ND	5.1	0	39	62.7	83.0	65	0.11
8/9/2019 15:00	41	49	43	77	ND	76	100	ND	3.2	281	67	63.5	83.6	239	0.11
8/9/2019 16:00	40	38	38	58	ND	44	77	ND	1.7	137	67	68.7	74.6	362	0.11
8/9/2019 17:00	43	46	42	69	ND	68	87	ND	2.3	110	74	71.3	69.2	333	0.11
8/9/2019 18:00	36	38	41	61	ND	63	76	ND	3.2	110	29	69.2	71.3	146	0.11
8/9/2019 19:00	33	36	34	56	ND	59	74	ND	0.6	77	65	66.3	80.1	30	0.11
8/9/2019 20:00	39	36	39	57	ND	65	78	ND	0.2	303	29	64.8	83.9	1	0.11
8/9/2019 21:00	46	41	40	65	ND	66	96	ND	1.0	280	21	64.8	81.1	0	0.11
8/9/2019 22:00	55	47	46	78	ND	80	113	ND	3.3	353	28	65.5	73.2	0	0.11
8/9/2019 23:00	73	73	74	120	ND	128	161	ND	3.3	12	5	66.0	71.8	0	0.11
8/10/2019 0:00	67	71	65	90	ND	88	145	ND	3.1	2	36	65.9	70.9	0	0.11
8/10/2019 1:00	2	68	ND	ND	ND	ND	ND	ND	1.5	354	53	64.5	72.7	0	0.00
8/10/2019 2:00	ND	65	ND	ND	ND	ND	ND	ND	2.0	317	68	64.1	72.7	0	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
8/12/2019 6:00	ND	27	ND	ND	ND	ND	ND	ND	0.8	140	46	53.4	97.0	24	0.00
8/12/2019 7:00	ND	ND	ND	ND	ND	ND	ND	ND	1.5	130	53	54.1	96.8	87	0.00
8/12/2019 8:00	ND	ND	ND	ND	ND	ND	ND	ND	2.9	123	40	54.5	96.2	156	0.01
8/12/2019 9:00	ND	ND	ND	ND	ND	ND	ND	ND	2.2	116	39	55.4	93.9	160	0.01
8/12/2019 10:00	ND	ND	ND	ND	ND	ND	ND	ND	2.8	139	32	56.0	92.9	299	0.01
8/12/2019 11:00	ND	ND	ND	ND	ND	ND	ND	ND	2.0	65	69	62.1	77.4	621	0.01
8/12/2019 12:00	ND	ND	ND	ND	ND	ND	ND	ND	3.0	167	77	65.8	69.2	739	0.01
8/12/2019 13:00	ND	ND	ND	ND	ND	ND	ND	ND	2.6	184	64	68.4	58.0	748	0.01
8/12/2019 14:00	ND	ND	ND	ND	ND	ND	ND	ND	3.1	232	58	70.9	46.7	696	0.01
8/12/2019 15:00	ND	ND	ND	ND	ND	ND	ND	ND	2.7	247	68	72.4	45.0	540	0.01
8/12/2019 16:00	ND	ND	ND	ND	ND	ND	ND	ND	2.8	196	53	72.9	42.1	476	0.01
8/12/2019 17:00	ND	ND	ND	ND	ND	ND	ND	ND	2.8	142	25	72.2	44.3	279	0.01
8/12/2019 18:00	ND	ND	ND	ND	ND	ND	ND	ND	1.7	121	31	73.1	42.4	194	0.01
8/12/2019 19:00	ND	ND	ND	ND	ND	ND	ND	ND	1.1	355	33	68.9	51.0	25	0.01
8/12/2019 20:00	ND	ND	ND	ND	ND	ND	ND	ND	2.0	18	29	66.9	52.1	1	0.01
8/12/2019 21:00	ND	ND	ND	ND	ND	ND	ND	ND	2.2	16	16	66.2	52.7	0	0.01
8/12/2019 22:00	ND	ND	ND	ND	ND	ND	ND	ND	2.6	15	9	65.8	55.0	0	0.01
8/12/2019 23:00	ND	ND	ND	ND	ND	ND	ND	ND	3.5	15	6	65.6	55.9	0	0.01
8/13/2019 0:00	ND	ND	ND	ND	ND	ND	ND	ND	2.2	17	17	64.7	58.0	0	0.01
8/13/2019 1:00	ND	ND	ND	ND	ND	ND	ND	ND	1.2	12	14	64.1	59.3	0	0.00
8/13/2019 2:00	ND	ND	ND	ND	ND	ND	ND	ND	0.6	3	14	63.1	61.3	0	0.00
8/13/2019 6:00	2	3	10	7	ND	5	9	ND	1.2	26	67	62.3	66.3	83	0.00
8/13/2019 7:00	10	9	10	16	ND	14	24	ND	3.4	60	57	65.7	59.7	231	0.00
8/13/2019 8:00	9	9	8	15	ND	10	22	ND	3.6	124	27	66.6	60.9	397	0.00
8/13/2019 9:00	10	10	11	18	ND	13	24	ND	4.5	114	28	69.5	53.5	552	0.00
8/13/2019 10:00	7	11	10	20	ND	4	22	ND	4.1	113	46	72.6	46.8	677	0.00
8/13/2019 11:00	10	11	13	19	ND	19	18	ND	3.4	161	75	73.7	41.2	529	0.00
8/13/2019 12:00	10	11	11	19	ND	20	26	ND	3.8	198	53	76.0	36.1	815	0.00
8/13/2019 13:00	11	11	13	19	ND	ND	24	ND	4.7	174	33	77.3	34.0	877	0.00
8/13/2019 14:00	17	15	13	23	ND	ND	31	ND	4.5	197	47	78.4	29.6	765	0.00
8/13/2019 15:00	14	13	14	24	ND	ND	42	ND	3.9	218	58	79.6	28.7	646	0.00
8/13/2019 16:00	11	13	11	24	ND	ND	29	ND	3.6	189	56	80.1	28.9	519	0.00
8/13/2019 17:00	13	14	13	28	ND	ND	41	ND	3.5	208	57	80.1	29.2	358	0.00
8/13/2019 18:00	14	15	14	32	ND	ND	37	ND	2.3	271	45	79.3	28.6	176	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
8/13/2019 19:00	13	16	14	45	ND	ND	40	ND	0.7	354	21	75.4	33.6	23	0.00
8/13/2019 20:00	12	13	17	32	ND	ND	46	ND	1.5	358	34	73.5	35.1	1	0.00
8/13/2019 21:00	13	14	9	39	ND	ND	53	ND	1.5	350	26	72.7	35.9	0	0.00
8/13/2019 22:00	13	17	17	31	ND	ND	38	ND	0.7	353	40	72.1	36.3	0	0.00
8/13/2019 23:00	14	16	19	44	ND	ND	41	ND	1.8	292	17	71.5	37.1	0	0.00
8/14/2019 0:00	14	19	17	37	ND	ND	48	ND	1.1	311	21	70.1	38.7	0	0.00
8/14/2019 1:00	13	21	16	47	ND	ND	55	ND	1.4	298	27	69.6	40.0	0	0.00
8/14/2019 2:00	15	18	19	31	ND	ND	38	ND	1.7	313	32	68.9	41.7	0	0.00
8/14/2019 6:00	17	15	18	29	ND	ND	40	ND	1.5	313	34	63.3	54.8	45	0.00
8/14/2019 7:00	16	14	15	29	ND	ND	41	ND	0.4	236	55	64.7	55.4	169	0.00
8/14/2019 8:00	18	16	19	27	ND	24	40	ND	1.2	145	64	67.8	53.2	299	0.00
8/14/2019 9:00	13	16	17	25	ND	36	35	ND	2.5	141	66	72.3	46.8	539	0.00
8/14/2019 10:00	18	17	19	28	ND	47	35	ND	3.5	181	30	74.5	41.7	660	0.00
8/14/2019 11:00	19	19	21	29	ND	45	37	ND	3.9	177	39	76.3	39.0	744	0.00
8/14/2019 12:00	12	17	17	27	ND	44	37	ND	4.2	240	58	78.8	35.2	794	0.00
8/14/2019 13:00	16	14	15	51	ND	23	40	ND	4.3	233	69	80.2	33.0	761	0.00
8/14/2019 14:00	16	16	13	31	ND	35	51	ND	5.0	260	41	81.3	28.6	683	0.00
8/14/2019 15:00	11	12	9	33	ND	24	48	ND	4.7	273	57	83.0	25.0	645	0.00
8/14/2019 16:00	11	14	10	26	ND	22	35	ND	4.7	282	57	82.9	24.2	513	0.00
8/14/2019 17:00	12	11	6	19	ND	51	38	ND	4.5	261	42	82.1	24.9	357	0.00
8/14/2019 18:00	12	15	7	20	ND	39	29	ND	3.3	250	44	81.8	22.1	222	0.00
8/14/2019 19:00	13	13	11	22	ND	48	39	ND	2.2	278	43	78.9	23.9	41	0.00
8/14/2019 20:00	13	17	14	29	ND	28	50	ND	1.4	309	19	76.5	26.7	2	0.00
8/14/2019 21:00	14	23	14	26	ND	38	54	ND	0.2	10	41	73.8	32.3	0	0.00
8/14/2019 22:00	11	15	16	25	ND	25	68	ND	1.2	313	17	73.1	35.3	0	0.00
8/14/2019 23:00	12	16	13	28	ND	25	66	ND	0.6	313	8	72.2	36.7	0	0.00
8/15/2019 0:00	14	14	15	26	ND	21	55	ND	0.6	1	29	71.2	38.1	0	0.00
8/15/2019 1:00	11	13	16	42	ND	22	37	ND	0.1	353	41	69.2	41.3	0	0.00
8/15/2019 2:00	11	10	12	33	ND	22	27	ND	0.1	1	31	67.9	42.7	0	0.00
8/15/2019 6:00	13	14	15	28	ND	25	30	ND	1.0	13	55	65.4	49.7	32	0.00
8/15/2019 7:00	17	13	12	36	ND	36	35	ND	1.5	147	59	65.5	52.8	145	0.00
8/15/2019 8:00	13	14	17	26	ND	21	30	ND	1.7	166	72	66.0	54.6	213	0.00
8/15/2019 9:00	13	15	15	24	ND	28	31	ND	2.8	142	54	71.3	45.5	534	0.00
8/15/2019 10:00	18	15	16	23	ND	38	29	ND	3.0	223	50	74.4	43.1	661	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
8/15/2019 11:00	14	14	19	23	ND	30	28	ND	4.5	184	52	77.1	36.8	753	0.00
8/15/2019 12:00	15	19	19	24	ND	30	34	ND	4.4	184	55	80.3	32.6	831	0.00
8/15/2019 13:00	17	15	14	24	ND	38	33	ND	5.4	192	46	81.3	27.2	848	0.00
8/15/2019 14:00	15	15	13	24	ND	79	29	ND	4.4	216	49	83.1	23.0	779	0.00
8/15/2019 15:00	17	19	13	25	ND	38	44	ND	5.1	218	59	83.7	22.9	705	0.00
8/15/2019 16:00	15	21	19	29	ND	20	55	ND	5.3	259	48	83.1	22.9	526	0.00
8/15/2019 17:00	16	15	15	25	ND	42	36	ND	3.6	226	54	83.0	22.5	343	0.00
8/15/2019 18:00	15	20	12	25	ND	40	38	ND	2.6	214	77	82.4	22.5	178	0.00
8/15/2019 19:00	14	17	16	26	ND	34	55	ND	2.4	283	29	78.1	25.0	21	0.00
8/15/2019 20:00	12	16	18	42	ND	26	48	ND	3.3	306	9	76.1	25.6	1	0.00
8/15/2019 21:00	13	15	13	44	ND	27	53	ND	3.0	304	18	74.8	27.6	0	0.00
8/15/2019 22:00	14	16	17	35	ND	27	39	ND	4.2	297	12	73.5	32.7	0	0.00
8/15/2019 23:00	17	17	19	39	ND	30	46	ND	4.5	298	7	72.4	34.2	0	0.00
8/16/2019 0:00	17	19	20	36	ND	32	53	ND	4.2	301	10	73.5	31.2	0	0.00
8/16/2019 1:00	18	20	19	38	ND	30	55	ND	2.6	282	28	69.9	36.8	0	0.00
8/16/2019 2:00	19	24	18	31	ND	38	44	ND	2.1	274	44	66.0	45.3	0	0.00
8/16/2019 6:00	18	13	16	23	ND	27	32	ND	0.5	170	56	58.3	60.9	57	0.00
8/16/2019 7:00	15	15	15	26	ND	23	33	ND	2.1	120	41	61.5	55.9	205	0.00
8/16/2019 8:00	15	18	19	30	ND	30	40	ND	3.5	94	57	62.8	54.9	344	0.00
8/16/2019 9:00	17	17	17	27	ND	32	46	ND	3.3	120	38	67.3	48.5	503	0.00
8/16/2019 10:00	16	18	18	27	ND	29	38	ND	3.3	122	57	71.1	41.7	635	0.00
8/16/2019 11:00	19	19	20	26	ND	44	36	ND	4.2	180	35	72.5	41.4	735	0.00
8/16/2019 12:00	19	19	19	28	ND	29	37	ND	4.7	191	45	74.8	35.6	769	0.00
8/16/2019 13:00	18	18	20	29	ND	37	39	ND	4.1	212	53	77.3	29.8	767	0.00
8/16/2019 14:00	17	18	16	29	ND	46	46	ND	4.3	233	53	79.4	26.6	681	0.00
8/16/2019 15:00	18	22	18	28	ND	51	46	ND	3.7	241	66	78.3	28.1	345	0.00
8/16/2019 16:00	18	26	18	34	ND	35	43	ND	2.9	295	48	77.4	29.2	177	0.00
8/16/2019 17:00	19	23	20	37	ND	39	44	ND	2.1	270	50	76.9	29.8	136	0.00
8/16/2019 18:00	22	22	24	36	ND	40	56	ND	2.2	259	75	75.6	33.8	53	0.00
8/16/2019 19:00	19	21	29	37	ND	56	49	ND	2.9	3	52	71.1	47.9	22	0.00
8/16/2019 20:00	20	20	24	38	ND	32	55	ND	1.2	330	65	68.7	52.4	0	0.00
8/16/2019 21:00	20	21	25	37	ND	37	47	ND	1.1	303	62	68.4	53.1	0	0.00
8/16/2019 22:00	20	21	23	42	ND	41	48	ND	1.5	332	82	68.1	52.9	0	0.00
8/16/2019 23:00	16	13	20	38	ND	33	46	ND	1.8	345	39	66.6	52.3	0	0.00
8/17/2019 0:00	10	ND	17	25	ND	21	33	ND	2.7	20	49	66.7	45.6	0	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
8/17/2019 1:00	3	ND	6	12	ND	5	5	ND	2.1	14	31	66.8	40.2	0	0.00
8/17/2019 2:00	ND	ND	ND	ND	ND	ND	ND	ND	1.9	336	76	65.8	42.7	0	0.00
8/19/2019 6:00	ND	ND	ND	ND	ND	ND	ND	ND	0.5	181	27	61.5	58.0	63	0.00
8/19/2019 7:00	7	8	13	4	ND	13	26	ND	2.1	189	27	63.5	53.5	217	0.00
8/19/2019 8:00	19	13	16	22	ND	26	32	ND	2.7	157	51	67.0	49.3	384	0.00
8/19/2019 9:00	12	14	16	22	ND	20	31	ND	3.2	165	60	69.2	47.2	538	0.00
8/19/2019 10:00	10	13	15	19	ND	30	31	ND	3.7	182	44	72.3	39.8	641	0.00
8/19/2019 11:00	12	12	15	20	ND	23	26	ND	4.0	201	54	75.6	35.3	759	0.00
8/19/2019 12:00	12	12	10	39	ND	25	29	ND	3.8	195	38	76.5	33.0	482	0.00
8/19/2019 13:00	11	9	9	49	ND	22	27	ND	3.9	215	67	79.1	28.3	698	0.00
8/19/2019 14:00	10	12	10	37	ND	23	25	ND	4.4	230	51	81.2	23.8	714	0.00
8/19/2019 15:00	9	11	7	36	ND	27	26	ND	4.4	235	56	83.1	19.2	634	0.00
8/19/2019 16:00	9	11	8	55	ND	21	25	ND	4.3	198	59	83.3	18.8	496	0.00
8/19/2019 17:00	20	10	9	30	ND	20	30	ND	3.4	217	64	83.5	18.9	337	0.00
8/19/2019 18:00	11	11	10	26	ND	21	37	ND	3.6	277	45	81.8	20.2	170	0.00
8/19/2019 19:00	11	12	10	29	ND	25	37	ND	2.7	299	13	77.9	23.6	13	0.00
8/19/2019 20:00	10	17	12	27	ND	12	35	ND	2.3	314	14	76.1	24.7	0	0.00
8/19/2019 21:00	11	17	9	31	ND	16	42	ND	1.6	299	14	74.5	27.1	0	0.00
8/19/2019 22:00	9	14	8	29	ND	15	30	ND	2.0	303	12	73.3	29.6	0	0.00
8/19/2019 23:00	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW
8/20/2019 0:00	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW
8/20/2019 1:00	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW
8/20/2019 2:00	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW
8/20/2019 6:00	12	11	13	56	ND	21	33	ND	0.5	80	26	66.6	38.0	63	0.00
8/20/2019 7:00	15	12	15	47	ND	19	36	ND	0.9	95	43	71.1	35.4	211	0.00
8/20/2019 8:00	12 C	13	16 C	31	CAL	22 C	31	ND	2.5	118	36	73.8	34.7	375	0.00
8/20/2019 9:00	12	12	16	28	CAL	17	33	CAL	3.5	138	37	76.5	33.0	536	0.00
8/20/2019 10:00	11	12	16	29 C	ND	17	28	ND	3.5	157	59	79.9	28.6	647	0.00
8/20/2019 11:00	10	10	19	29	ND	20	30	ND	3.7	148	56	82.5	26.0	752	CAL
8/20/2019 12:00	12	12	12	35	ND	30	27	ND	4.1	190	62	84.0	25.0	792	CAL
8/20/2019 13:00	11	13	6	47	ND	34	27	ND	4.5	191	47	85.7	21.5	784	CAL
8/20/2019 14:00	5	7 C	5	42	ND	30	50	ND	3.6	308	37	77.2	11.7	605	0.00
8/20/2019 15:00	12	9	9	37	ND	30	31	ND	2.5	188	79	85.1	14.2	390	0.00
8/20/2019 16:00	9	12	16	28	ND	18	23	ND	2.4	171	83	88.9	15.1	476	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
8/20/2019 17:00	11	10	8	27	ND	27	24	ND	2.3	273	98	88.4	15.8	272	0.00
8/20/2019 18:00	10	12	7	42	ND	17	30	ND	0.9	183	31	84.6	18.7	73	0.00
8/20/2019 19:00	9	11	8	46	ND	20	72	ND	0.1	351	3	81.7	21.2	17	0.00
8/20/2019 20:00	10	11	9	78	ND	19	78	ND	0.7	354	26	80.3	21.3	0	0.00
8/20/2019 21:00	9	9	10	44	ND	24	32	ND	1.2	304	63	79.9	23.4	0	0.00
8/20/2019 22:00	12	12	10	30	ND	29	37	ND	1.0	282	22	78.7	24.1	0	0.00
8/20/2019 23:00	10	14	10	27	ND	31	46	ND	1.1	298	22	77.6	27.1	0	0.00
8/21/2019 0:00	10	14	11	23	ND	25	46	ND	1.8	307	8	77.4	27.9	0	0.00
8/21/2019 1:00	9	12	10	27	ND	26	48	ND	2.0	300	6	77.0	28.9	0	0.00
8/21/2019 2:00	8	11	8	21	ND	10	23	ND	3.4	307	9	76.7	29.5	0	0.00
8/21/2019 6:00	9	11	8	24	ND	12	28	ND	1.5	261	28	72.0	34.5	40	0.00
8/21/2019 7:00	17	14	17	48	ND	26	33	ND	1.3	132	65	73.5	34.2	193	0.00
8/21/2019 8:00	14	13	14	33	ND	24	33	ND	3.2	142	22	74.2	35.2	366	0.00
8/21/2019 9:00	19	19	23	42	ND	32	41	ND	3.5	170	36	75.7	36.3	524	0.00
8/21/2019 10:00	27	27	29	54	ND	47	54	ND	4.1	171	37	77.3	35.1	630	0.00
8/21/2019 11:00	42	34	41	83	ND	83	90	ND	5.0	189	45	81.0	29.3	711	0.00
8/21/2019 12:00	31	25	26	72	ND	51	83	ND	5.6	186	41	83.3	22.9	771	0.00
8/21/2019 13:00	27	22	17	115	ND	43	65	ND	6.0	189	36	84.3	20.2	722	0.00
8/21/2019 14:00	28	27	26	104	ND	63	73	ND	5.8	188	51	84.6	19.6	663	0.00
8/21/2019 15:00	30	33	21	99	ND	54	86	ND	5.1	234	85	83.4	17.5	357	0.00
8/21/2019 16:00	23	24	18	112	ND	83	69	ND	4.6	265	53	79.7	19.8	197	0.00
8/21/2019 17:00	21	18	15	81	ND	ND	53	ND	3.6	267	39	77.9	23.8	149	0.00
8/21/2019 18:00	19	18	17	73	ND	ND	58	ND	4.3	266	47	73.6	35.6	69	0.00
8/21/2019 19:00	14	14	13	40	ND	ND	34	ND	4.3	278	50	71.0	42.3	14	0.00
8/21/2019 20:00	11	23	7	32	ND	ND	42	ND	5.7	272	27	68.8	55.4	0	0.00
8/21/2019 21:00	5	6	4	12	ND	ND	14	ND	2.3	267	46	66.7	61.9	0	0.00
8/21/2019 22:00	4	5	2	10	ND	ND	13	ND	1.2	200	63	65.7	61.4	0	0.00
8/21/2019 23:00	4	4	2	22	ND	ND	11	ND	1.5	218	67	65.4	61.2	0	0.00
8/22/2019 0:00	4	9	5	21	ND	ND	17	ND	4.7	186	46	62.9	69.4	0	0.00
8/22/2019 1:00	7	5	6	20	ND	ND	17	ND	4.2	179	20	60.5	76.7	0	0.00
8/22/2019 2:00	6	9	5	12	ND	ND	16	ND	4.5	176	15	58.9	82.9	0	0.00
8/22/2019 6:00	7	7	8	17	ND	ND	19	ND	1.3	115	35	58.8	86.6	20	0.00
8/22/2019 7:00	7	6	9	17	ND	ND	19	ND	1.9	143	31	59.7	84.8	97	0.00
8/22/2019 8:00	6	8	8	18	ND	ND	18	ND	2.5	200	36	61.6	80.2	249	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
8/22/2019 9:00	7	9	6	19	ND	8	19	ND	2.9	222	45	65.0	71.6	422	0.00
8/22/2019 10:00	8	7	7	21	ND	16	48	ND	3.2	208	57	68.0	63.7	604	0.00
8/22/2019 11:00	9	9	5	18	ND	18	61	ND	2.7	228	49	68.5	62.1	379	0.00
8/22/2019 12:00	8	8	12	17	ND	12	27	ND	3.4	188	64	73.0	52.6	745	0.00
8/22/2019 13:00	8	8	6	33	ND	17	28	ND	4.1	193	45	73.3	48.4	488	0.00
8/22/2019 14:00	10	9	12	35	ND	32	80	ND	5.1	232	61	77.1	40.8	801	0.00
8/22/2019 15:00	11	15	9	34	ND	24	47	ND	4.4	221	60	78.8	36.4	682	0.00
8/22/2019 16:00	9	14	5	50	ND	20	24	ND	4.8	217	52	78.7	34.0	493	0.00
8/22/2019 17:00	9	8	3	45	ND	33	31	ND	4.2	221	55	78.9	31.6	336	0.00
8/22/2019 18:00	10	14	5	26	ND	31	22	ND	3.3	238	46	77.6	31.0	148	0.00
8/22/2019 19:00	9	12	8	31	ND	23	22	ND	2.1	286	33	73.6	33.9	11	0.00
8/22/2019 20:00	9	14	8	35	ND	15	38	ND	1.1	296	23	71.3	35.6	0	0.00
8/22/2019 21:00	8	10	7	19	ND	24	34	ND	2.1	289	27	69.5	37.6	0	0.00
8/22/2019 22:00	10	10	9	22	ND	22	44	ND	3.3	300	36	67.1	43.2	0	0.00
8/22/2019 23:00	9	11	8	41	ND	15	36	ND	5.5	304	12	68.1	39.6	0	0.00
8/23/2019 0:00	9	10	6	24	ND	29	27	ND	3.5	304	9	66.9	41.2	0	0.00
8/23/2019 1:00	9	8	6	20	ND	24	25	ND	5.0	300	6	66.5	41.9	0	0.00
8/23/2019 2:00	7	9	6	14	ND	15	18	ND	3.2	304	13	65.2	44.4	0	0.00
8/23/2019 6:00	6	7	9	29	ND	7	17	ND	0.0	74	8	62.9	52.4	60	0.00
8/23/2019 7:00	7	7	12	27	ND	18	16	ND	1.6	118	37	66.1	48.7	190	0.00
8/23/2019 8:00	10	8	9	19	ND	14	21	ND	2.2	162	69	67.3	48.0	322	0.00
8/23/2019 9:00	7	7	9	17	ND	22	19	ND	2.7	230	37	70.1	44.9	435	0.00
8/23/2019 10:00	24	9	7	25	ND	22	25	ND	3.4	248	42	72.0	41.8	621	0.00
8/23/2019 11:00	9	7	10	23	ND	27	28	ND	3.5	238	41	73.8	39.9	539	0.00
8/23/2019 12:00	9	9	13	34	ND	18	26	ND	4.0	211	52	75.1	38.0	515	0.00
8/23/2019 13:00	9	9	14	31	ND	20	47	ND	3.9	218	68	77.8	34.7	743	0.00
8/23/2019 14:00	10	12	13	41	ND	31	41	ND	4.7	179	54	79.0	32.3	611	0.00
8/23/2019 15:00	10	15	10	35	ND	29	54	ND	4.4	220	54	79.9	30.1	438	0.00
8/23/2019 16:00	11	12	10	38	ND	14	43	ND	4.2	269	47	78.0	31.7	190	0.00
8/23/2019 17:00	13	12	8	40	ND	21	40	ND	3.4	276	33	76.7	31.9	82	0.00
8/23/2019 18:00	14	14	10	24	ND	27	37	ND	2.5	286	24	75.3	32.0	38	0.00
8/23/2019 19:00	12	13	10	28	ND	27	39	ND	2.7	308	10	74.0	33.7	9	0.00
8/23/2019 20:00	11	14	13	34	ND	21	34	ND	2.6	309	19	73.1	34.5	0	0.00
8/23/2019 21:00	11	13	14	38	ND	33	37	ND	3.1	304	38	72.3	36.2	0	0.00
8/23/2019 22:00	18	16	20	37	ND	29	51	ND	0.8	19	70	69.8	40.6	0	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
8/23/2019 23:00	15	17	15	45	ND	29	53	ND	0.9	347	35	68.6	44.3	0	0.00
8/24/2019 0:00	16	16	19	33	ND	34	48	ND	1.4	286	30	66.0	50.8	0	0.00
8/24/2019 1:00	2	16	ND	ND	ND	3	1	ND	0.3	292	12	64.6	56.4	0	0.00
8/24/2019 2:00	ND	16	ND	ND	ND	ND	ND	ND	0.2	74	62	63.5	60.9	0	0.00
8/26/2019 6:00	2	3	7	5	ND	2	8	ND	1.5	273	66	60.0	44.3	50	0.00
8/26/2019 7:00	5	5	9	16	ND	6	16	ND	3.1	136	100	64.7	36.2	203	0.00
8/26/2019 8:00	6	3	8	20	ND	4	28	ND	4.4	354	70	66.5	33.0	367	0.00
8/26/2019 9:00	6	5	3	13	ND	10	24	ND	4.0	177	35	67.3	37.6	524	0.00
8/26/2019 10:00	4	12	3	26	ND	12	41	ND	3.9	219	54	69.1	36.1	626	0.00
8/26/2019 11:00	5	10	5	19	ND	22	29	ND	4.6	236	57	71.0	31.5	746	0.00
8/26/2019 12:00	6	7	13	35	ND	12	21	ND	5.3	181	34	73.1	27.7	808	0.00
8/26/2019 13:00	7	8	9	30	ND	22	33	ND	5.3	207	66	74.9	24.5	778	0.00
8/26/2019 14:00	7	7	10	40	ND	19	59	ND	5.2	246	62	74.8	24.6	681	0.00
8/26/2019 15:00	13	12	9	29	ND	29	55	ND	5.2	281	59	75.6	24.6	604	0.00
8/26/2019 16:00	9	12	6	26	ND	32	34	ND	4.9	253	44	76.5	23.3	465	0.00
8/26/2019 17:00	14	11	10	43	ND	47	62	ND	3.3	191	56	76.5	23.3	303	0.00
8/26/2019 18:00	7	12	9	24	ND	32	58	ND	3.1	260	29	75.3	25.3	130	0.00
8/26/2019 19:00	10	12	10	21	ND	36	36	ND	1.5	301	23	71.0	29.5	8	0.00
8/26/2019 20:00	5	14	7	21	ND	17	46	ND	1.6	331	28	69.4	31.7	0	0.00
8/26/2019 21:00	7	6	6	45	ND	12	34	ND	3.8	17	7	69.7	31.1	0	0.00
8/26/2019 22:00	9	8	9	35	ND	14	34	ND	5.2	16	6	69.3	30.7	0	0.00
8/26/2019 23:00	11	11	11	39	ND	16	30	ND	6.5	9	5	68.6	30.7	0	0.00
8/27/2019 0:00	13	13	13	33	ND	27	48	ND	7.1	8	4	67.6	31.3	0	0.00
8/27/2019 1:00	13	15	17	35	ND	28	43	ND	5.4	9	7	66.6	32.7	0	0.00
8/27/2019 2:00	15	16	14	30	ND	29	34	ND	2.5	11	27	65.0	34.6	0	0.00
8/27/2019 6:00	18	22	21	36	ND	36	47	ND	0.9	23	68	62.1	37.3	48	0.00
8/27/2019 7:00	26	18	27	45	ND	26	44	ND	1.3	106	49	65.2	35.9	195	0.00
8/27/2019 8:00	19	18	24	40	ND	40	43	ND	3.2	130	18	67.4	34.4	359	0.00
8/27/2019 9:00	20	19	20	34	ND	44	56	ND	3.2	161	52	68.7	35.0	514	0.00
8/27/2019 10:00	18	21	19	41	ND	32	52	ND	3.0	188	66	72.4	30.1	638	0.00
8/27/2019 11:00	17	19	23	36	ND	29	46	ND	3.8	212	61	72.4	27.5	716	0.00
8/27/2019 12:00	18	20	24	47	ND	28	69	ND	4.1	204	54	76.2	27.1	763	0.00
8/27/2019 13:00	19	20	22	50	ND	42	65	ND	4.0	194	45	78.4	25.2	752	0.00
8/27/2019 14:00	18	23	23	52	ND	38	48	ND	4.3	231	68	79.6	24.5	695	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
8/27/2019 15:00	23	24	17	80	ND	50	57	ND	4.4	181	53	81.5	22.9	591	0.00
8/27/2019 16:00	16	25	16	107	ND	28	42	ND	3.8	225	66	82.1	22.3	456	0.00
8/27/2019 17:00	15	17	13	47	ND	38	41	ND	3.4	180	40	82.0	22.1	299	0.00
8/27/2019 18:00	14	16	14	41	ND	33	53	ND	2.0	209	40	81.0	22.9	124	0.00
8/27/2019 19:00	19	21	15	60	ND	25	57	ND	1.1	293	16	75.8	27.3	8	0.00
8/27/2019 20:00	18	26	19	48	ND	35	61	ND	1.0	298	7	74.3	28.4	0	0.00
8/27/2019 21:00	17	23	14	92	ND	27	63	ND	0.3	286	10	72.6	29.2	0	0.00
8/27/2019 22:00	17	23	18	68	ND	35	72	ND	0.9	304	21	72.7	27.5	0	0.00
8/27/2019 23:00	15	18	16	76	ND	27	49	ND	1.2	318	9	72.3	26.6	0	0.00
8/28/2019 0:00	15	20	16	59	ND	27	65	ND	0.3	314	13	70.8	28.0	0	0.00
8/28/2019 1:00	15	19	16	77	ND	29	61	ND	1.5	316	16	71.3	27.7	0	0.00
8/28/2019 2:00	16	19	17	36	ND	26	45	ND	0.9	320	7	69.6	29.8	0	0.00
8/28/2019 6:00	15	18	19	35	ND	27	61	ND	0.5	288	28	66.4	35.8	44	0.00
8/28/2019 7:00	14	19	23	45	ND	34	71	ND	0.5	122	56	69.7	34.4	194	0.00
8/28/2019 8:00	18	21	28	42	ND	31	43	ND	1.9	110	37	72.8	34.1	355	0.00
8/28/2019 9:00	18	20	24	39	ND	26	36	ND	2.6	132	65	75.5	31.8	518	0.00
8/28/2019 10:00	19	21	20	35	ND	30	42	ND	3.2	188	30	77.9	28.0	644	0.00
8/28/2019 11:00	19	18	22	38	ND	31	51	ND	3.7	207	43	80.5	26.4	721	0.00
8/28/2019 12:00	13	14	16	48	ND	31	29	ND	3.3	222	50	83.2	21.0	741	0.00
8/28/2019 13:00	11	10	4	49	ND	26	39	ND	4.4	201	41	85.2	18.0	751	0.00
8/28/2019 14:00	10	9	10	39	ND	35	34	ND	4.4	238	68	86.9	16.5	678	0.00
8/28/2019 15:00	6	18	7	19	ND	30	37	ND	4.3	261	48	87.8	14.0	575	0.00
8/28/2019 16:00	8	10	13	24	ND	27	31	ND	3.4	246	61	88.9	13.3	424	0.00
8/28/2019 17:00	11	12	10	34	ND	44	55	ND	3.3	228	52	88.3	14.2	272	0.00
8/28/2019 18:00	16	14	7	25	ND	23	59	ND	2.4	269	33	86.5	15.2	110	0.00
8/28/2019 19:00	12	21	11	45	ND	28	50	ND	2.2	318	15	82.3	17.7	11	0.00
8/28/2019 20:00	20	25	15	55	ND	31	72	ND	3.0	313	9	81.2	18.6	0	0.00
8/28/2019 21:00	19	29	12	50	ND	33	85	ND	3.3	310	7	80.4	19.7	0	0.00
8/28/2019 22:00	19	22	17	40	ND	49	60	ND	2.4	306	24	78.5	21.4	0	0.00
8/28/2019 23:00	18	21	16	52	ND	33	54	ND	2.9	304	24	78.1	21.5	0	0.00
8/29/2019 0:00	16	22	17	58	ND	29	58	ND	1.8	344	58	78.0	20.7	0	0.00
8/29/2019 1:00	18	21	17	68	ND	16	51	ND	0.8	290	46	75.0	23.0	0	0.00
8/29/2019 2:00	21	27	24	45	ND	37	56	ND	1.1	343	43	72.2	25.8	0	0.00
8/29/2019 6:00	14	16	16	32	ND	30	43	ND	1.5	7	70	67.3	34.6	36	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
8/29/2019 7:00	15	14	14	56	ND	28	47	ND	0.5	351	53	70.0	33.3	133	0.00
8/29/2019 8:00	14	26	26	39	ND	28	47	ND	1.7	323	88	70.9	35.2	183	0.00
8/29/2019 9:00	15	20	20	35	ND	41	63	ND	4.1	38	79	70.9	34.1	363	0.00
8/29/2019 10:00	18	18	24	38	ND	32	60	ND	3.9	71	54	71.5	33.7	284	0.00
8/29/2019 11:00	22	22	25	40	ND	39	54	ND	2.7	137	64	73.6	32.3	320	0.00
8/29/2019 12:00	25	33	28	53	ND	45	56	ND	3.6	156	25	75.4	30.4	350	0.00
8/29/2019 13:00	26	27	31	67	ND	47	57	ND	5.3	173	14	77.1	30.5	470	0.00
8/29/2019 14:00	25	32	22	98	ND	62	83	ND	6.4	177	29	78.9	32.4	363	0.00
8/29/2019 15:00	37	38	24	78	ND	65	91	ND	4.9	180	20	75.6	38.5	116	0.00
8/29/2019 16:00	26	44	23	65	ND	50	58	ND	5.3	176	21	75.4	35.6	201	0.00
8/29/2019 17:00	24	23	21	79	ND	46	69	ND	6.2	177	16	74.5	40.4	221	0.00
8/29/2019 18:00	21	22	17	52	ND	32	43	ND	3.7	173	17	72.9	46.9	116	0.00
8/29/2019 19:00	9	15	12	23	ND	18	33	ND	0.8	30	83	70.3	52.0	7	0.00
8/29/2019 20:00	7	9	11	25	ND	15	26	ND	0.6	10	54	68.8	54.8	0	0.00
8/29/2019 21:00	5	9	8	20	ND	13	24	ND	0.8	278	39	68.1	56.0	0	0.00
8/29/2019 22:00	8	8	10	23	ND	17	28	ND	0.3	259	57	66.8	59.7	0	0.00
8/29/2019 23:00	9	11	11	24	ND	18	32	ND	0.4	352	37	65.9	62.4	0	0.00
8/30/2019 0:00	9	10	11	26	ND	17	31	ND	0.7	334	56	66.0	62.3	0	0.00
8/30/2019 1:00	13	11	15	29	ND	32	34	ND	0.6	327	46	64.9	65.3	0	0.00
8/30/2019 2:00	15	13	16	28	ND	27	32	ND	2.6	349	33	64.2	68.1	0	0.00
8/30/2019 6:00	16	19	20	34	ND	21	38	ND	3.7	32	44	62.5	72.9	17	0.00
8/30/2019 7:00	15	18	15	35	ND	23	42	ND	1.8	352	35	62.7	74.3	32	0.00
8/30/2019 8:00	9	17	16	29	ND	21	32	ND	2.0	308	61	63.3	75.5	92	0.00
8/30/2019 9:00	11	18	17	29	ND	28	36	ND	3.1	320	83	62.4	80.8	85	0.05
8/30/2019 10:00	17	19	23	31	ND	26	42	ND	2.6	37	79	62.6	85.7	304	0.06
8/30/2019 11:00	15	19	16	29	ND	27	37	ND	2.7	77	56	66.1	79.3	369	0.06
8/30/2019 12:00	19	19	18	35	ND	38	40	ND	2.5	113	59	67.6	75.5	355	0.06
8/30/2019 13:00	18	20	24	61	ND	38	40	ND	3.1	167	88	73.4	62.6	719	0.06
8/30/2019 14:00	16	17	14	31	ND	33	34	ND	1.5	179	93	74.8	57.7	293	0.06
8/30/2019 15:00	11	14	18	49	ND	24	28	ND	2.2	209	75	78.2	48.1	444	0.06
8/30/2019 16:00	14	13	10	60	ND	31	26	ND	1.3	85	77	77.9	48.0	260	0.06
8/30/2019 17:00	11	14	14	23	ND	13	28	ND	2.6	46	63	79.8	47.6	289	0.06
8/30/2019 19:00	14	15	16	34	ND	24	38	ND	4.2	14	12	71.8	64.4	5	0.06
8/30/2019 20:00	14	15	16	32	ND	28	41	ND	4.2	10	21	70.8	65.5	0	0.06
8/30/2019 21:00	14	15	14	33	ND	24	33	ND	4.2	9	22	69.8	67.4	0	0.06

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
8/30/2019 22:00	11	13	12	30	ND	23	33	ND	3.9	16	19	69.7	66.0	0	0.06
8/30/2019 23:00	12	12	11	25	ND	20	27	ND	3.9	17	17	69.1	67.2	0	0.06
8/31/2019 0:00	14	12	10	27	ND	18	25	ND	4.4	20	14	68.7	67.7	0	0.06
8/31/2019 1:00	12	12	11	27	ND	11	23	ND	3.8	16	23	68.4	68.2	0	0.00
8/31/2019 2:00	11	11	12	20	ND	ND	ND	ND	3.4	34	34	67.7	69.8	0	0.00
	**** No site work on September 2 due to Labor Day holiday**														
9/3/2019 6:00	9	12	8	16	ND	ND	ND	ND	0.5	307	31	64.9	45.6	31	0.00
9/3/2019 7:00	12	8	10	36	ND	11	12	ND	0.9	91	33	69.0	39.6	179	0.00
9/3/2019 8:00	10	9	13	28	ND	19	26	ND	1.7	115	45	70.9	38.9	312	0.00
9/3/2019 9:00	8	9	11	23	ND	16	30	ND	5.3	100	47	73.6	34.9	469	0.00
9/3/2019 10:00	6	8	10	19	ND	2	30	ND	6.1	111	37	76.6	30.7	578	0.00
9/3/2019 11:00	8	7	13	27	ND	11	19	ND	4.5	84	60	79.0	28.2	656	0.00
9/3/2019 12:00	8	8	11	38	ND	9	25	ND	3.7	103	58	80.9	24.2	501	0.00
9/3/2019 13:00	6	9	9	41	ND	11	19	ND	3.6	119	44	82.0	23.3	493	0.00
9/3/2019 14:00	5	8	7	17	ND	9	19	ND	2.7	259	100	84.8	21.2	629	0.00
9/3/2019 15:00	8	9	8	44	ND	18	22	ND	4.0	197	45	85.4	22.2	486	0.00
9/3/2019 16:00	9	10	10	22	ND	16	16	ND	4.1	176	49	84.3	22.7	318	0.00
9/3/2019 17:00	13	12	6	44	ND	24	31	ND	3.5	193	44	82.5	23.6	183	0.00
9/3/2019 18:00	13	10	6	23	ND	31	34	ND	2.1	267	40	81.9	24.6	87	0.00
9/3/2019 19:00	17	13	12	48	ND	37	47	ND	2.4	274	49	77.6	29.1	5	0.00
9/3/2019 20:00	16	16	14	37	ND	31	68	ND	2.8	281	36	74.5	33.9	0	0.00
9/3/2019 21:00	15	14	13	28	ND	28	56	ND	5.0	286	14	73.8	34.4	0	0.00
9/3/2019 22:00	11	12	8	24	ND	27	53	ND	3.6	279	18	72.7	35.8	0	0.00
9/3/2019 23:00	15	13	12	45	ND	26	58	ND	2.2	263	43	70.0	40.7	0	0.00
9/4/2019 0:00	13	16	14	39	ND	36	58	ND	2.4	298	9	67.2	45.8	0	0.00
9/4/2019 1:00	14	16	12	49	ND	24	57	ND	2.2	298	14	65.3	50.3	0	0.00
9/4/2019 2:00	12	14	12	25	ND	17	31	ND	3.0	290	20	64.4	53.4	0	0.00
9/4/2019 6:00	8	9	7	25	ND	11	25	ND	0.3	325	44	60.6	58.4	31	0.00
9/4/2019 7:00	10	13	19	33	ND	21	27	ND	0.7	115	35	65.2	52.4	170	0.00
9/4/2019 8:00	12	16	21	32	ND	26	33	ND	2.6	125	28	67.3	48.3	336	0.00
9/4/2019 9:00	12	14	16	24	ND	20	30	ND	3.5	179	34	68.7	45.0	492	0.00
9/4/2019 10:00	10	11	14	18	ND	19	24	ND	4.4	169	35	70.5	40.3	618	0.00
9/4/2019 11:00	8	9	12	ND	ND	16	25	ND	4.2	176	45	73.3	34.7	705	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
9/4/2019 12:00	8	9	17	ND	ND	17	28	ND	4.1	179	40	75.5	31.8	739	0.00
9/4/2019 13:00	9	10	11	ND	ND	29	28	ND	4.1	208	64	76.7	28.5	730	0.00
9/4/2019 14:00	8	9	7	ND	ND	21	23	ND	4.7	210	48	78.3	24.6	672	0.00
9/4/2019 15:00	8	11	7	ND	ND	19	24	ND	3.9	233	68	79.7	22.0	569	0.00
9/4/2019 16:00	10	9	6	ND	ND	13	29	ND	3.8	244	57	80.2	21.4	427	0.00
9/4/2019 17:00	11	10	6	ND	ND	22	36	ND	3.6	269	54	79.3	22.1	261	0.00
9/4/2019 18:00	10	10	7	ND	ND	20	44	ND	2.7	271	36	77.5	24.2	90	0.00
9/4/2019 19:00	12	13	9	ND	ND	43	27	ND	1.2	306	21	73.5	27.4	4	0.00
9/4/2019 20:00	9	18	10	ND	ND	34	61	ND	1.1	324	24	72.2	28.6	0	0.00
9/4/2019 21:00	11	20	10	ND	ND	24	64	ND	0.6	338	23	71.0	30.1	0	0.00
9/4/2019 22:00	10	18	10	ND	ND	27	48	ND	1.8	305	14	70.8	30.5	0	0.00
9/4/2019 23:00	10	13	9	ND	ND	17	46	ND	2.1	313	10	69.8	31.4	0	0.00
9/5/2019 0:00	9	21	9	ND	ND	21	53	ND	1.3	294	38	69.7	31.8	0	0.00
9/5/2019 1:00	8	18	9	ND	ND	22	63	ND	1.0	327	36	68.7	32.7	0	0.00
9/5/2019 2:00	12	14	11	ND	ND	19	38	ND	0.4	28	63	66.1	36.8	0	0.00
9/5/2019 6:00	12	14	12	ND	ND	31	38	ND	1.7	340	61	63.6	40.5	30	0.00
9/5/2019 7:00	13	18	14	ND	ND	20	45	ND	1.3	270	82	65.2	39.5	127	0.00
9/5/2019 8:00	13	18	15	71	ND	30	35	ND	2.0	116	79	70.2	35.5	333	0.00
9/5/2019 9:00	9	11	9	27	ND	25	29	ND	2.9	138	45	73.8	32.5	490	0.00
9/5/2019 10:00	10	14	15	30	ND	18	39	ND	5.5	140	47	76.0	30.2	616	0.00
9/5/2019 11:00	9	11	13	25	ND	13	38	ND	5.8	108	34	79.4	25.5	699	0.00
9/5/2019 12:00	7	8	16	26	ND	12	49	ND	4.5	54	76	81.9	22.2	737	0.00
9/5/2019 13:00	10	10	5	26	ND	11	37	ND	3.2	259	72	83.8	20.9	568	0.00
9/5/2019 14:00	10	13	11	34	ND	17	30	ND	3.1	229	69	82.9	23.8	399	0.00
9/5/2019 15:00	10	14	7	29	ND	12	25	ND	2.1	179	93	82.3	23.9	242	0.00
9/5/2019 16:00	9	12	14	32	ND	24	43	ND	3.1	116	60	85.4	20.4	409	0.00
9/5/2019 17:00	8	10	9	32	ND	10	34	ND	4.2	51	59	84.9	17.7	249	0.00
9/5/2019 18:00	15	12	8	45	ND	25	32	ND	2.7	70	66	81.4	20.2	60	0.00
9/5/2019 19:00	13	11	11	53	ND	18	33	ND	2.4	20	9	78.6	21.4	4	0.00
9/5/2019 20:00	8	9	6	82	ND	22	32	ND	2.4	4	22	78.3	21.7	0	0.00
9/5/2019 21:00	8	8	10	37	ND	16	26	ND	1.3	337	66	77.2	22.7	0	0.00
9/5/2019 22:00	8	11	7	36	ND	21	29	ND	1.5	326	17	77.1	23.0	0	0.00
9/5/2019 23:00	11	13	8	62	ND	27	62	ND	1.2	307	44	76.0	24.2	0	0.00
9/6/2019 0:00	6	14	9	29	ND	18	123	ND	3.3	315	30	76.5	24.0	0	0.00
9/6/2019 1:00	7	12	10	41	ND	24	31	ND	3.1	328	27	76.8	24.2	0	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	Sigma deg	TEMP °F	RH %	SOLAR w/m^2	PCP inches
9/6/2019 2:00	10	11	11	26	ND	25	30	ND	2.0	295	66	71.2	31.3	0	0.00
9/6/2019 6:00	13	13	13	25	ND	29	34	ND	7.5	303	6	63.4	67.7	1	0.05
9/6/2019 7:00	14	16	17	30	ND	28	36	ND	5.0	297	53	61.5	78.6	10	0.12
9/6/2019 8:00	14	16	16	23	ND	27	29	ND	3.8	301	30	63.7	71.0	37	0.12
9/6/2019 9:00	7	14	12	20	ND	17	25	ND	1.2	82	83	63.2	79.0	96	0.12
9/6/2019 10:00	7	16	14	23	ND	21	30	ND	2.2	52	70	62.7	84.3	88	0.12
9/6/2019 11:00	14	16	16	25	ND	24	31	ND	2.5	4	69	63.0	82.6	162	0.12
9/6/2019 12:00	12	15	11	23	ND	24	31	ND	3.0	74	67	65.3	69.0	256	0.12
9/6/2019 13:00	13	16	16	24	ND	22	30	ND	2.0	123	50	67.3	69.2	324	0.12
9/6/2019 14:00	14	16	20	37	ND	24	26	ND	1.8	165	57	68.0	70.0	271	0.12
9/6/2019 15:00	14	17	13	28	ND	24	36	ND	3.0	230	65	69.8	62.0	377	0.12
9/6/2019 16:00	13	14	12	25	ND	20	24	ND	2.2	198	48	71.5	58.0	266	0.12
9/6/2019 17:00	13	13	12	43	ND	25	28	ND	2.5	189	32	71.5	59.2	220	0.12
9/6/2019 18:00	13	12	10	37	ND	23	29	ND	1.5	195	46	70.0	61.1	76	0.12
9/6/2019 19:00	13	14	11	29	ND	18	29	ND	1.8	6	44	66.2	69.1	3	0.12
9/6/2019 20:00	13	14	14	29	ND	20	33	ND	1.1	1	28	65.5	70.0	0	0.12
9/6/2019 21:00	14	13	12	26	ND	24	34	ND	1.7	2	16	65.1	69.6	0	0.12
9/6/2019 22:00	11	11	9	22	ND	16	25	ND	2.2	9	20	64.1	67.0	0	0.12
9/6/2019 23:00	10	12	15	24	ND	20	28	ND	0.6	341	16	63.3	69.1	0	0.12
9/7/2019 0:00	13	13	13	26	ND	20	35	ND	0.2	308	14	61.8	73.4	0	0.12
9/7/2019 1:00	12	11	11	26	ND	11	16	ND	0.2	17	32	59.7	79.5	0	0.00
9/7/2019 2:00	12	14	14	22	ND	ND	ND	ND	0.8	354	26	59.8	78.7	0	0.00
	**** No site work on September 9 due to wet conditions**														
9/10/2019 6:00	ND	ND	3	ND	ND	ND	ND	ND	1.5	44	44	50.6	89.8	10	0.00
9/10/2019 7:00	ND	ND	3	ND	ND	ND	ND	ND	2.2	36	40	54.1	81.1	134	0.00
9/10/2019 8:00	ND	2	3	ND	ND	ND	ND	ND	2.6	89	52	56.3	79.9	222	0.00
9/10/2019 9:00	1	3	2	ND	ND	1	2	ND	3.6	84	63	58.8	73.1	464	0.00
9/10/2019 10:00	1	2	6	ND	ND	0	5	ND	3.9	112	37	60.5	71.7	565	0.00
9/10/2019 11:00	1	3	4	8	ND	0	5	ND	3.7	136	35	61.6	69.7	632	0.00
9/10/2019 12:00	3	3	7	13	ND	3	8	ND	3.5	156	37	63.6	65.1	713	0.00
9/10/2019 13:00	2	4	4	19	ND	5	8	ND	2.9	131	63	64.1	64.0	555	0.00
9/10/2019 14:00	4	3	5	18	ND	8	10	ND	3.6	222	57	66.3	52.2	688	0.00
9/10/2019 15:00	3	4	3	20	ND	10	5	ND	3.8	235	47	66.0	52.4	397	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
9/10/2019 16:00	3	3	2	25	ND	2	7	ND	4.1	276	44	66.9	50.5	433	0.00
9/10/2019 17:00	3	3	5	24	ND	4	5	ND	3.3	270	96	66.4	52.7	319	0.00
9/10/2019 18:00	2	1	5	11	ND	3	12	ND	4.6	24	31	60.8	58.1	70	0.00
9/10/2019 19:00	1	2	6	12	ND	5	13	ND	4.0	5	35	59.0	63.6	3	0.00
9/10/2019 20:00	2	2	1	12	ND	3	7	ND	3.5	18	15	58.9	63.9	0	0.00
9/10/2019 21:00	3	4	6	11	ND	3	14	ND	3.0	359	63	58.7	63.8	0	0.00
9/10/2019 22:00	1	5	2	10	ND	7	11	ND	0.8	318	44	57.3	67.8	0	0.00
9/10/2019 23:00	1	3	4	6	ND	2	7	ND	0.7	329	48	57.8	67.5	0	0.00
9/11/2019 0:00	1	4	4	11	ND	5	10	ND	0.9	280	29	56.2	72.6	0	0.00
9/11/2019 1:00	1	5	0	11	ND	1	12	ND	1.0	312	19	55.8	74.0	0	0.00
9/11/2019 2:00	1	2	2	5	ND	3	3	ND	0.5	26	39	56.1	73.0	0	0.00
9/11/2019 6:00	1	3	2	6	ND	0	7	ND	1.5	284	33	52.6	80.2	18	0.00
9/11/2019 7:00	2 C	1	6	12	ND	1 C	14	ND	0.6	257	44	57.0	72.4	140	0.00
9/11/2019 8:00	3	2	2	7	ND	CAL	8	ND	2.7	132	28	58.0	73.7	317	0.00
9/11/2019 9:00	3	4	3	9	ND	1 C	9	ND	2.3	170	57	59.3	72.4	390	0.00
9/11/2019 10:00	4	3 C	4	12	ND	13	9	ND	2.7	219	38	62.6	66.3	583	0.00
9/11/2019 11:00	2	3	4	8	ND	11	10 C	ND	3.1	204	59	65.0	57.9	639	0.00
9/11/2019 12:00	2	2	3 C	18	ND	7	7 C	ND	3.9	211	50	65.9	54.5	684	0.00
9/11/2019 13:00	3	3	6	9 C	ND	11	10	ND	4.0	241	53	67.4	51.9	678	0.00
9/11/2019 14:00	3	4	3	17 C	ND	19	13	ND	4.1	243	51	68.1	49.3	609	0.00
9/11/2019 15:00	4	6	2	23	ND	11	10	ND	4.5	244	51	69.7	45.6	523	0.00
9/11/2019 16:00	5	6	1	14	ND	10	9	ND	4.2	254	51	69.3	43.9	308	0.00
9/11/2019 17:00	4	3	7	13	ND	14	11	ND	4.1	271	48	68.2	43.4	162	0.00
9/11/2019 18:00	3	4	4	10	ND	8	14	ND	3.4	266	27	66.1	45.0	49	0.00
9/11/2019 19:00	2	4	2	11	ND	10	29	ND	3.0	296	10	63.3	51.2	1	0.00
9/11/2019 20:00	4	3	7	16	ND	11	34	ND	2.3	309	15	62.0	54.2	0	0.00
9/11/2019 21:00	3	6	3	9	ND	14	30	ND	1.1	301	10	60.9	55.5	0	0.00
9/11/2019 22:00	4	8	5	12	ND	10	20	ND	0.8	307	20	60.0	57.9	0	0.00
9/11/2019 23:00	5	7	3	11	ND	10	34	ND	1.7	298	16	59.9	58.8	0	0.00
9/12/2019 0:00	6	6	5	11	ND	14	43	ND	1.9	298	14	59.4	61.3	0	0.00
9/12/2019 1:00	6	6	5	11	ND	13	39	ND	1.8	294	10	58.5	63.5	0	0.00
9/12/2019 2:00	5	5	3	10	ND	10	12	ND	1.7	312	9	58.2	62.1	0	0.00
9/12/2019 6:00	7	5	7	24	ND	10	15	ND	1.2	0	24	55.7	68.2	24	0.00
9/12/2019 7:00	7	6	8	29	ND	12	18	ND	1.6	5	54	58.2	65.2	110	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	Sigma deg	TEMP °F	RH %	SOLAR w/m^2	PCP inches
9/12/2019 8:00	7	7	10	19	ND	16	20	ND	2.8	22	36	58.2	68.3	239	0.00
9/12/2019 9:00	5	7	7	11	ND	9	14	ND	3.4	45	61	61.6	63.2	428	0.00
9/12/2019 10:00	6	6	8	12	ND	11	16	ND	3.5	77	66	63.9	59.6	528	0.00
9/12/2019 11:00	6	6	9	14	ND	9	14	ND	3.5	142	63	65.9	55.3	487	0.00
9/12/2019 12:00	5	7	5	17	ND	12	15	ND	4.1	180	53	67.8	48.6	596	0.00
9/12/2019 13:00	5	6	8	17	ND	21	14	ND	5.2	169	34	69.8	42.4	644	0.00
9/12/2019 14:00	6	5	2	33	ND	19	12	ND	5.7	173	38	71.1	38.0	554	0.00
9/12/2019 15:00	5	6	4	19	ND	21	7	ND	4.8	168	50	72.9	33.7	509	0.00
9/12/2019 16:00	4	9	3	17	ND	16	14	ND	5.5	167	18	73.3	32.0	367	0.00
9/12/2019 17:00	5	6	5	17	ND	12	26	ND	3.9	176	30	72.7	32.3	173	0.00
9/12/2019 18:00	4	4	5	13	ND	13	15	ND	2.0	166	53	71.1	33.6	62	0.00
9/12/2019 19:00	5	6	6	17	ND	12	22	ND	1.3	3	26	67.4	38.8	1	0.00
9/12/2019 20:00	5	3	5	21	ND	7	15	ND	1.0	359	17	66.1	40.9	0	0.00
9/12/2019 21:00	5	5	5	13	ND	10	13	ND	1.0	75	74	65.3	41.8	0	0.00
9/12/2019 22:00	5	4	5	18	ND	9	19	ND	0.4	350	49	64.1	44.2	0	0.00
9/12/2019 23:00	8	6	6	17	ND	13	23	ND	1.4	292	39	64.0	44.6	0	0.00
9/13/2019 0:00	8	7	7	30	ND	15	25	ND	0.9	270	34	64.3	43.9	0	0.00
9/13/2019 1:00	7	7	5	19	ND	13	24	ND	1.8	233	44	63.9	44.4	0	0.00
9/13/2019 2:00	5	5	6	11	ND	11	12	ND	0.8	218	40	61.8	48.2	0	0.00
9/13/2019 6:00	4	8	5	12	ND	8	16	ND	2.6	289	58	55.2	75.1	3	0.03
9/13/2019 7:00	4	4	4	7	ND	14	10	ND	1.7	289	36	56.1	74.3	76	0.03
9/13/2019 8:00	5	4	6	12	ND	12	12	ND	2.8	268	36	59.4	68.7	285	0.03
9/13/2019 9:00	5	4	5	11	ND	12	9	ND	3.4	217	39	61.7	61.0	455	0.03
9/13/2019 10:00	3	4	5	10	ND	10	6	ND	4.0	237	54	64.5	46.1	603	0.03
9/13/2019 11:00	4	3	6	20	ND	8	11	ND	4.4	243	56	65.9	41.9	544	0.03
9/13/2019 12:00	3	2	3	18	ND	11	10	ND	4.3	253	47	67.5	39.7	677	0.03
9/13/2019 13:00	4	3	2	17	ND	18	11	ND	4.6	249	63	69.3	36.9	576	0.03
9/13/2019 14:00	3	3	2	20	ND	22	10	ND	4.5	234	60	69.3	37.9	383	0.03
9/13/2019 15:00	4	3	4	13	ND	12	9	ND	4.4	264	45	69.5	37.0	392	0.03
9/13/2019 16:00	3	4	3	8	ND	12	6	ND	3.3	273	37	68.8	37.3	183	0.03
9/13/2019 17:00	5	5	6	18	ND	18	16	ND	4.0	234	69	67.1	40.6	111	0.03
9/13/2019 18:00	4	3	5	16	ND	14	17	ND	3.1	258	54	64.5	46.5	36	0.03
9/13/2019 19:00	4	4	5	14	ND	9	20	ND	2.4	268	34	61.8	51.1	1	0.03
9/13/2019 20:00	3	2	1	7	ND	9	23	ND	2.7	298	45	60.7	53.5	0	0.03
9/13/2019 21:00	2	3	2	6	ND	5	16	ND	1.0	307	62	59.2	57.9	0	0.03

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	Sigma deg	TEMP °F	RH %	SOLAR w/m^2	PCP inches
9/13/2019 22:00	1	3	1	8	ND	9	18	ND	1.3	314	17	58.4	60.5	0	0.03
9/13/2019 23:00	2	3	1	7	ND	9	12	ND	1.1	294	29	57.5	62.9	0	0.03
9/14/2019 0:00	3	3	5	5	ND	11	11	ND	1.0	277	36	57.2	63.0	0	0.03
9/14/2019 1:00	2	3	1	7	ND	4	5	ND	1.8	279	37	57.1	63.9	0	0.00
9/14/2019 2:00	2	2	ND	5	ND	ND	ND	ND	2.3	282	22	56.1	66.5	0	0.00
9/16/2019 6:00	3	3	4	7	ND	ND	3	ND	0.3	259	62	50.3	89.3	6	0.02
9/16/2019 7:00	3	4	3	10	ND	8	9	ND	1.9	344	48	50.0	89.9	28	0.04
9/16/2019 8:00	3	3	7	6	ND	5	8	ND	2.6	38	55	50.1	90.5	57	0.05
9/16/2019 9:00	3	4	2	6	ND	5	7	ND	2.3	41	54	50.1	90.3	73	0.08
9/16/2019 10:00	5	3	3	5	ND	4	9	ND	2.2	110	48	50.4	92.8	77	0.11
9/16/2019 11:00	187 F	3	9	9	ND	252 F	67 F	ND	3.5	175	19	49.3	95.3	75	0.15
9/16/2019 12:00	85 F	3	ND	1	ND	114 F	30 F	ND	3.5	179	20	49.2	96.0	61	0.17
9/16/2019 13:00	ND	3	ND	ND	ND	ND	ND	ND	2.9	168	20	49.7	94.5	119	0.17
9/16/2019 14:00	ND	1	ND	ND	ND	ND	ND	ND	2.3	176	27	50.7	93.1	105	0.18
9/16/2019 15:00	ND	3	ND	ND	ND	ND	ND	ND	1.4	175	41	51.7	90.2	127	0.18
9/16/2019 16:00	ND	1	ND	ND	ND	ND	ND	ND	1.1	273	51	51.2	91.4	48	0.19
9/16/2019 17:00	ND	ND	ND	ND	ND	ND	ND	ND	1.2	263	45	51.6	90.3	70	0.19
9/16/2019 18:00	ND	ND	ND	ND	ND	ND	ND	ND	0.9	296	46	51.3	90.1	10	0.19
9/16/2019 19:00	ND	ND	ND	ND	ND	ND	ND	ND	0.5	218	34	51.3	91.1	0	0.19
9/16/2019 20:00	ND	ND	ND	ND	ND	ND	ND	ND	1.3	206	42	51.2	93.3	0	0.19
9/16/2019 21:00	ND	ND	ND	ND	ND	ND	ND	ND	1.6	301	36	50.2	95.6	0	0.19
9/16/2019 22:00	ND	ND	ND	ND	ND	ND	ND	ND	0.6	255	41	49.2	96.3	0	0.19
9/16/2019 23:00	ND	ND	ND	ND	ND	ND	ND	ND	1.0	263	41	49.1	96.6	0	0.19
9/17/2019 0:00	ND	ND	ND	ND	ND	ND	ND	ND	1.3	293	54	48.9	96.5	0	0.19
9/17/2019 1:00	ND	ND	ND	ND	ND	ND	ND	ND	1.5	210	45	48.8	96.8	0	0.00
9/17/2019 2:00	ND	ND	ND	ND	ND	ND	ND	ND	2.3	150	22	48.0	97.6	0	0.00
9/17/2019 6:00	ND	ND	ND	ND	ND	ND	ND	ND	2.9	103	58	47.1	96.1	2	0.00
9/17/2019 7:00	ND	ND	ND	ND	ND	ND	ND	ND	4.0	103	46	46.1	96.9	14	0.00
9/17/2019 8:00	670 F	ND	4	ND	ND	ND	146 F	ND	3.4	97	65	46.1	96.5	69	0.00
9/17/2019 9:00	ND	ND	12	ND	ND	ND	12	ND	2.9	120	58	47.0	92.9	82	0.00
9/17/2019 10:00	ND	ND	4	ND	ND	ND	ND	ND	2.7	136	43	48.7	87.8	160	0.00
9/17/2019 11:00	ND	ND	4	ND	ND	ND	ND	ND	3.4	159	33	50.4	82.8	168	0.00
9/17/2019 12:00	ND	ND	3	ND	ND	ND	ND	ND	4.7	171	32	53.7	72.9	250	0.00
9/17/2019 13:00	ND	ND	3	ND	ND	ND	ND	ND	5.5	179	17	54.6	67.9	145	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
9/17/2019 14:00	ND	ND	4	ND	ND	ND	ND	ND	5.3	169	16	56.0	61.8	177	0.00
9/17/2019 15:00	ND	ND	2	ND	ND	ND	ND	ND	5.6	182	21	56.2	59.7	108	0.00
9/17/2019 16:00	ND	ND	1	ND	ND	ND	ND	ND	1.4	266	71	55.5	62.3	80	0.00
9/17/2019 17:00	ND	ND	1	ND	ND	ND	ND	ND	2.6	285	48	53.0	73.2	26	0.02
9/17/2019 18:00	ND	ND	4	ND	ND	ND	ND	ND	1.4	316	62	51.7	75.3	7	0.04
9/17/2019 19:00	ND	ND	8	ND	ND	ND	ND	ND	1.2	358	47	51.6	74.7	0	0.04
9/17/2019 20:00	ND	ND	3	ND	ND	ND	ND	ND	1.5	350	85	52.7	70.6	0	0.06
9/17/2019 21:00	ND	ND	7	ND	ND	ND	ND	ND	0.7	336	51	49.4	89.0	0	0.11
9/17/2019 22:00	ND	ND	7	ND	ND	ND	ND	ND	3.3	7	29	49.1	88.1	0	0.13
9/17/2019 23:00	ND	ND	8	ND	ND	ND	ND	ND	3.5	16	38	50.2	82.1	0	0.13
9/18/2019 0:00	ND	ND	6	ND	ND	ND	ND	ND	3.2	350	54	49.1	89.0	0	0.18
9/18/2019 1:00	ND	ND	6	ND	ND	ND	ND	ND	3.4	21	13	49.9	84.5	0	0.00
9/18/2019 2:00	ND	ND	5	ND	ND	ND	ND	ND	2.3	10	55	50.6	82.6	0	0.00
	**** No site work on September 18 due to wet conditions**														
9/19/2019 6:00	ND	ND	3	ND	ND	ND	ND	ND	0.4	327	48	47.9	97.0	9	0.00
9/19/2019 7:00	ND	ND	3	ND	ND	ND	ND	ND	1.1	187	65	47.9	96.0	42	0.00
9/19/2019 8:00	ND	ND	44	ND	ND	ND	ND	ND	1.1	214	54	47.7	96.8	122	0.00
9/19/2019 9:00	ND	ND	27	ND	ND	ND	ND	ND	1.9	134	30	49.2	95.5	192	0.00
9/19/2019 10:00	ND	ND	19	ND	ND	ND	ND	ND	1.9	168	41	49.9	94.4	181	0.00
9/19/2019 11:00	ND	ND	12	ND	ND	ND	ND	ND	2.0	185	61	51.3	92.9	275	0.00
9/19/2019 12:00	ND	ND	8	ND	ND	ND	ND	ND	2.7	154	32	55.1	83.7	562	0.00
9/19/2019 13:00	ND	ND	6	ND	ND	ND	ND	ND	3.1	171	38	58.1	73.9	528	0.00
9/19/2019 14:00	1	4	3	18	ND	11	7	ND	4.1	203	44	61.0	61.3	597	0.00
9/19/2019 15:00	3	4	6	41	ND	12	12	ND	4.4	203	37	63.2	55.4	521	0.00
9/19/2019 16:00	2	4	4	70	ND	6	8	ND	3.9	238	32	63.6	52.8	348	0.00
9/19/2019 17:00	2	4	2	9	ND	4	8	ND	2.8	245	38	62.7	54.8	142	0.00
9/19/2019 18:00	1	5	3	10	ND	3	15	ND	2.2	314	9	59.5	57.9	22	0.00
9/19/2019 19:00	2	5	5	9	ND	4	30	ND	1.7	298	16	58.4	60.2	0	0.00
9/19/2019 20:00	3	5	3	8	ND	7	32	ND	2.2	298	7	58.1	60.7	0	0.00
9/19/2019 21:00	3	5	2	8	ND	4	28	ND	1.8	297	8	57.1	61.6	0	0.00
9/19/2019 22:00	1	4	1	8	ND	3	22	ND	1.8	278	13	56.1	64.0	0	0.00
9/19/2019 23:00	2	4	3	7	ND	10	22	ND	2.1	288	21	54.9	65.5	0	0.00
9/20/2019 0:00	3	4	3	8	ND	7	30	ND	2.0	287	12	54.5	62.7	0	0.00
9/20/2019 1:00	2	4	2	7	ND	4	33	ND	2.0	269	18	54.7	62.3	0	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	Sigma deg	TEMP °F	RH %	SOLAR w/m^2	PCP inches
9/20/2019 2:00	2	4	2	8	ND	2	7	ND	2.3	265	18	54.2	64.1	0	0.00
9/20/2019 6:00	5	8	5	10	ND	5	13	ND	1.4	264	53	50.3	82.5	1	0.00
9/20/2019 7:00	4	6	11	14	ND	12	15	ND	0.6	321	79	49.3	88.9	18	0.00
9/20/2019 8:00	6	9	7	19	ND	13	18	ND	1.2	341	85	50.3	88.9	78	0.00
9/20/2019 9:00	7	7	6	13	ND	15	20	ND	1.8	161	57	53.3	83.4	267	0.00
9/20/2019 10:00	7	7	7	15	ND	13	19	ND	2.6	176	41	57.3	75.1	531	0.00
9/20/2019 11:00	7	9	6	51	ND	18	16	ND	3.7	212	29	59.7	68.6	679	0.00
9/20/2019 12:00	7	6	7	30	ND	12	15	ND	5.0	202	36	61.0	64.3	644	0.00
9/20/2019 13:00	3	7	3	12	ND	10	10	ND	5.2	226	48	62.9	56.1	526	0.00
9/20/2019 14:00	6	4	4	12	ND	16	12	ND	5.0	262	25	62.9	58.0	312	0.00
9/20/2019 15:00	4	5	2	12	ND	7	10	ND	1.6	216	65	63.5	57.7	308	0.00
9/20/2019 16:00	3	7	3	12	ND	5	9	ND	3.4	208	50	66.3	49.5	287	0.00
9/20/2019 17:00	2	4	2	8	ND	7	9	ND	2.8	214	49	65.8	48.3	171	0.00
9/20/2019 18:00	3	6	5	11	ND	7	15	ND	2.6	352	47	60.5	64.2	20	0.00
9/20/2019 19:00	6	12	8	18	ND	6	16	ND	1.0	327	89	58.0	63.4	0	0.00
9/20/2019 20:00	5	8	6	12	ND	7	14	ND	1.4	29	80	58.2	52.9	0	0.00
9/20/2019 21:00	4	6	5	9	ND	5	18	ND	2.1	250	49	57.5	52.5	0	0.00
9/20/2019 22:00	4	5	4	10	ND	8	11	ND	1.5	176	97	57.0	50.8	0	0.00
9/20/2019 23:00	4	5	3	11	ND	3	12	ND	1.9	123	91	56.7	50.4	0	0.00
9/21/2019 0:00	3	3	2	9	ND	5	13	ND	2.1	347	74	57.0	47.7	0	0.00
9/21/2019 1:00	3	3	5	11	ND	3	7	ND	1.6	252	94	55.2	52.1	0	0.00
9/21/2019 2:00	2	3	2	6	ND	ND	ND	ND	0.7	332	54	54.3	53.4	0	0.00
9/23/2019 6:00	ND	20	24	231 F	ND	ND	ND	ND	1.3	153	28	49.0	97.4	1	0.00
9/23/2019 7:00	ND	10	26	142 F	ND	ND	ND	ND	1.9	190	39	48.9	97.6	19	0.00
9/23/2019 8:00	ND	6	5	28	ND	ND	ND	ND	2.1	200	32	48.7	97.3	52	0.00
9/23/2019 9:00	ND	5	5	11	ND	ND	ND	ND	3.0	165	20	50.3	92.4	140	0.00
9/23/2019 10:00	ND	5	4	14	ND	ND	ND	ND	3.2	175	31	51.5	89.4	129	0.00
9/23/2019 11:00	ND	5	3	11	ND	ND	ND	ND	4.4	176	31	54.5	81.4	192	0.00
9/23/2019 12:00	3	5	5	9	ND	ND	4	ND	4.2	205	42	57.5	71.0	213	0.00
9/23/2019 13:00	3	6	6	9	ND	11	10	ND	3.2	252	46	57.9	68.3	140	0.00
9/23/2019 14:00	4	7	2	9	ND	8	10	ND	3.0	278	36	56.7	72.0	65	0.02
9/23/2019 15:00	4	6	3	7	ND	10	13	ND	2.1	296	35	53.6	85.7	59	0.07
9/23/2019 16:00	5	6	9	17	ND	14	9	ND	2.5	278	33	53.2	83.9	59	0.08
9/23/2019 17:00	7	7	9	21	ND	18	20	ND	2.8	272	28	52.9	72.7	51	0.08

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
9/23/2019 18:00	5	7	3	14	ND	10	15	ND	2.6	253	42	52.3	69.3	13	0.08
9/23/2019 19:00	6	5	7	9	ND	10	21	ND	2.3	272	40	51.3	67.6	0	0.08
9/23/2019 20:00	5	5	8	9	ND	8	26	ND	2.3	271	30	50.6	68.4	0	0.08
9/23/2019 21:00	5	7	5	9	ND	10	17	ND	0.8	295	33	49.7	72.2	0	0.08
9/23/2019 22:00	4	7	6	11	ND	10	17	ND	1.8	268	33	49.7	75.5	0	0.08
9/23/2019 23:00	6	7	5	15	ND	12	20	ND	3.2	275	19	49.1	79.7	0	0.09
9/24/2019 0:00	5	9	9	15	ND	17	22	ND	2.4	287	27	48.4	84.4	0	0.10
9/24/2019 1:00	7	7	6	13	ND	11	22	ND	2.2	273	35	47.9	86.0	0	0.00
9/24/2019 2:00	7	6	7	10	ND	10	15	ND	1.4	278	30	47.8	87.3	0	0.00
9/24/2019 6:00	7	8	6	15	ND	13	19	ND	1.2	260	25	46.3	89.7	5	0.00
9/24/2019 7:00	7	8	7	17	ND	14	19	ND	1.0	235	34	49.2	83.4	135	0.00
9/24/2019 8:00	11	10	9	17	ND	20	24	ND	2.3	218	29	51.6	80.5	268	0.00
9/24/2019 9:00	8	10	8	16	ND	17	20	ND	3.3	214	26	53.9	77.6	408	0.00
9/24/2019 10:00	4	7	3	12	ND	8	12	ND	4.2	244	24	57.5	70.8	533	0.00
9/24/2019 11:00	5	6	5	9	ND	9	9	ND	4.2	254	42	61.1	61.6	614	0.00
9/24/2019 12:00	4	7	6	20	ND	9	11	ND	5.5	261	34	63.1	56.9	646	0.00
9/24/2019 13:00	4	8	8	28	ND	12	11	ND	5.4	253	44	66.3	43.1	633	0.00
9/24/2019 14:00	4	8	6	24	ND	22	13	ND	6.0	253	33	67.9	33.6	577	0.00
9/24/2019 15:00	5	7	3	24	ND	14	14	ND	6.0	256	37	69.1	28.2	459	0.00
9/24/2019 16:00	6	7	2	13	ND	11	10	ND	6.3	262	24	68.2	27.1	276	0.00
9/24/2019 17:00	5	6	6	13	ND	15	12	ND	5.7	257	16	66.6	28.6	110	0.00
9/24/2019 18:00	5	5	3	19	ND	8	20	ND	3.8	263	36	63.2	36.0	13	0.00
9/24/2019 19:00	5	4	9	17	ND	14	30	ND	4.4	259	16	61.3	41.4	0	0.00
9/24/2019 20:00	5	8	7	21	ND	16	27	ND	5.4	275	17	59.9	40.3	0	0.00
9/24/2019 21:00	8	10	11	20	ND	16	30	ND	5.5	276	19	58.4	39.1	0	0.00
9/24/2019 22:00	9	9	9	22	ND	15	31	ND	4.8	263	63	57.6	39.0	0	0.00
9/24/2019 23:00	5	7	9	18	ND	11	17	ND	4.0	315	77	56.4	43.6	0	0.00
9/25/2019 0:00	8	6	7	20	ND	14	19	ND	5.6	263	33	55.3	44.8	0	0.00
9/25/2019 1:00	6	7	7	21	ND	10	25	ND	2.6	240	67	52.8	50.6	0	0.00
9/25/2019 2:00	7	8	5	12	ND	11	26	ND	4.1	283	26	52.3	51.1	0	0.00
9/25/2019 6:00	6	8	6	15	ND	13	24	ND	2.4	325	26	50.8	52.8	5	0.00
9/25/2019 7:00	7	8	8	14	ND	10	26	ND	3.0	321	9	52.9	49.8	75	0.00
9/25/2019 8:00	7	7	9	21	ND	8	19	ND	1.7	167	75	57.0	47.6	253	0.00
9/25/2019 9:00	4	8	10	15	ND	11	22	ND	4.0	180	30	57.2	49.1	400	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
9/25/2019 10:00	8	10	12	19	ND	17	19	ND	3.1	193	45	59.1	47.4	514	0.00
9/25/2019 11:00	8	9	8	16	ND	15	19	ND	3.7	199	49	60.6	45.2	602	0.00
9/25/2019 12:00	7	10	3	26	ND	15	17	ND	4.1	200	46	61.6	40.5	634	0.00
9/25/2019 13:00	6	8	5	18	ND	19	16	ND	4.7	247	46	62.8	35.6	616	0.00
9/25/2019 14:00	5	7	3	21	ND	10	16	ND	4.6	259	33	63.6	32.0	544	0.00
9/25/2019 15:00	6	11	4	21	ND	16	18	ND	4.7	246	38	65.0	32.0	424	0.00
9/25/2019 16:00	7	16	7	20	ND	23	25	ND	5.5	252	32	64.8	31.9	288	0.00
9/25/2019 17:00	9	13	14	26	ND	22	55	ND	4.8	254	28	63.1	32.1	101	0.00
9/25/2019 18:00	14	14	10	28	ND	23	72	ND	3.2	258	34	60.1	36.6	9	0.00
9/25/2019 19:00	14	15	14	32	ND	30	67	ND	2.8	255	42	58.0	39.8	0	0.00
9/25/2019 20:00	19	17	19	32	ND	35	48	ND	3.2	241	47	57.3	41.9	0	0.00
9/25/2019 21:00	23	20	19	38	ND	42	52	ND	3.2	198	50	56.4	45.6	0	0.00
9/25/2019 22:00	21	23	25	42	ND	36	53	ND	4.6	184	23	55.3	51.3	0	0.00
9/25/2019 23:00	22	21	23	40	ND	41	55	ND	3.8	257	42	54.5	52.8	0	0.00
9/26/2019 0:00	18	19	21	43	ND	35	56	ND	3.2	265	35	53.9	53.1	0	0.00
9/26/2019 1:00	17	19	21	39	ND	39	58	ND	3.5	264	45	53.3	53.1	0	0.00
9/26/2019 2:00	17	21	19	34	ND	31	41	ND	2.8	239	48	52.7	55.4	0	0.00
9/26/2019 6:00	12	14	14	26	ND	19	41	ND	4.8	278	15	53.7	65.8	1	0.00
9/26/2019 7:00	9	10	13	22	ND	16	26	ND	5.7	276	17	54.4	67.0	15	0.00
9/26/2019 8:00	6	11	6	17	ND	10	18	ND	2.0	281	30	53.5	75.0	48	0.00
9/26/2019 9:00	9	11	10	21	ND	18	20	ND	1.5	230	45	54.4	75.7	149	0.00
9/26/2019 10:00	8	12	10	20	ND	12	22	ND	1.9	195	49	55.9	74.1	170	0.00
9/26/2019 11:00	10	11	8	20	ND	20	22	ND	2.2	221	55	59.4	67.9	432	0.00
9/26/2019 12:00	6	8	9	18	ND	15	15	ND	4.0	241	50	64.5	55.9	609	0.00
9/26/2019 13:00	3	7	6	15	ND	11	12	ND	5.3	263	35	67.0	48.9	629	0.00
9/26/2019 14:00	4	5	2	17	ND	12	17	ND	5.5	272	37	68.1	40.7	456	0.00
9/26/2019 15:00	2	6	4	19	ND	9	12	ND	8.5	353	28	59.4	58.7	92	0.01
9/26/2019 16:00	2	3	4	7	ND	7	6	ND	6.1	8	22	59.7	61.3	211	0.01
9/26/2019 17:00	3	5	3	9	ND	4	9	ND	4.6	3	34	62.4	57.5	149	0.01
9/26/2019 18:00	4	6	6	13	ND	10	11	ND	3.2	14	70	57.8	63.9	9	0.01
9/26/2019 19:00	4	5	6	6	ND	6	9	ND	4.1	344	89	55.3	58.4	0	0.01
9/26/2019 20:00	3	4	3	7	ND	8	9	ND	4.3	23	57	54.5	49.0	0	0.01
9/26/2019 21:00	3	2	1	8	ND	9	19	ND	2.2	226	65	52.4	48.6	0	0.01
9/26/2019 22:00	2	2	2	7	ND	3	12	ND	1.5	284	36	51.5	44.0	0	0.01
9/26/2019 23:00	2	3	2	5	ND	7	13	ND	1.8	301	68	50.9	43.4	0	0.01

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	WS mph	WD deg	Sigma deg	TEMP °F	RH %	SOLAR w/m^2	PCP inches
9/27/2019 0:00	1	2	1	13	ND	5	20	ND	2.1	341	25	50.5	40.7	0	0.01
9/27/2019 1:00	3	2	3	14	ND	3	34	ND	1.8	356	44	48.6	46.7	0	0.00
9/27/2019 2:00	1	1	3	5	ND	5	7	ND	2.5	354	69	48.5	44.8	0	0.00
9/27/2019 6:00	2	2	2	8	ND	1	29	ND	1.0	340	74	45.6	50.0	5	0.00
9/27/2019 7:00	1	2	2	12	ND	3	16	ND	0.8	71	55	48.5	48.4	95	0.00
9/27/2019 8:00	2	3	5	4	ND	4	8	ND	2.6	105	78	48.9	50.2	152	0.00
9/27/2019 9:00	2	3	3	7	ND	6	6	ND	3.0	127	49	49.2	51.1	293	0.00
9/27/2019 10:00	4	4	4	6	ND	4	5	ND	2.5	115	60	51.4	51.0	294	0.00
9/27/2019 11:00	3	6	5	9	ND	6	9	ND	3.7	162	25	50.4	55.1	260	0.00
9/27/2019 12:00	4	4	6	12	ND	10	9	ND	2.4	147	58	51.5	54.0	250	0.00
9/27/2019 13:00	4	5	6	12	ND	10	14	ND	3.3	149	73	53.8	52.7	205	0.00
9/27/2019 14:00	2	4	5	9	ND	7	11	ND	5.0	57	64	53.3	59.2	369	0.01
9/27/2019 15:00	7	5	8	16	ND	7	16	ND	5.1	15	33	51.1	64.6	119	0.01
9/27/2019 16:00	4	6	6	11	ND	6	14	ND	5.7	20	28	50.5	68.2	144	0.01
9/27/2019 17:00	6	7	7	14	ND	8	20	ND	5.3	18	17	49.1	72.7	22	0.02
9/27/2019 18:00	9	5	7	12	ND	10	14	ND	6.2	28	38	45.4	87.3	2	0.07
9/27/2019 19:00	5	5	6	5	ND	5	12	ND	6.1	356	39	43.1	88.6	0	0.19
9/27/2019 20:00	1	2	6	5	ND	3	7	ND	5.6	17	18	42.5	88.1	0	0.19
9/27/2019 21:00	2	1	2	4	ND	3	2	ND	6.3	0	52	42.0	86.6	0	0.19
9/27/2019 22:00	2	1	5	13	ND	3	10	ND	4.6	47	63	41.9	84.7	0	0.19
9/27/2019 23:00	1	2	2	5	ND	4	6	ND	4.2	52	56	41.5	87.5	0	0.19
9/28/2019 0:00	3	2	3	6	ND	6	7	ND	5.0	21	21	41.3	88.4	0	0.19
9/28/2019 1:00	1	3	1	6	ND	4	4	ND	4.2	12	36	40.7	88.3	0	0.00
9/28/2019 2:00	2	2	4	3	ND	4	9	ND	5.3	23	28	41.5	84.7	0	0.00
9/30/2019 6:00	SN	0	SN	2	ND	1	2	ND	5.9	19	17	35.2	63.2	1	0.00
9/30/2019 7:00	SN	1	SN	4	ND	1	3	ND	6.0	12	19	35.5	61.8	27	0.00
9/30/2019 8:00	0	0	0	7	ND	1	3	ND	6.6	14	12	35.8	61.0	71	0.00
9/30/2019 9:00	0	0	0	9	ND	0	2	ND	6.3	16	15	36.2	60.2	126	0.00
9/30/2019 10:00	0	1	1	5	ND	0	3	ND	6.1	11	17	37.0	59.8	191	0.00
9/30/2019 11:00	1	1	0	5	ND	0	2	ND	5.3	19	40	38.0	62.2	282	0.00
9/30/2019 12:00	1	2	1	3	ND	2	1	ND	5.3	19	25	39.3	62.0	336	0.00
9/30/2019 13:00	0	2	2	3	ND	1	1	ND	4.2	6	55	40.0	60.4	283	0.00
9/30/2019 14:00	0	2	1	2	ND	4	5	ND	2.6	20	55	41.1	60.7	251	0.00
9/30/2019 15:00	2	2	2	5	ND	7	3	ND	2.9	30	53	41.8	61.0	249	0.00

MIDNITE MINE SUPERFUND SITE HOURLY MONITORING DATA

DATE AND TIME	E-SAMPLER HOURLY AVERAGE TSP VALUES (µg/m^3)								HOURLY METEOROLOGICAL DATA VALUES						
											WD				DAILY
									WS	WD	Sigma	TEMP	RH	SOLAR	PCP
(PST)	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8	mph	deg	deg	°F	%	w/m^2	inches
9/30/2019 16:00	2	2	2	3	ND	2	3	ND	2.6	19	40	41.7	60.5	153	0.00
9/30/2019 17:00	2	2	2	4	ND	4	4	ND	1.8	12	43	41.3	62.7	74	0.00
9/30/2019 18:00	0	2	1	3	ND	5	6	ND	0.9	327	43	39.5	69.2	9	0.00
9/30/2019 19:00	1	2	1	4	ND	1	7	ND	2.2	355	13	38.2	70.1	0	0.00
9/30/2019 20:00	2	1	2	3	ND	4	8	ND	3.8	359	3	38.3	66.2	0	0.00
9/30/2019 21:00	1	4	3	6	ND	2	8	ND	1.2	347	69	37.1	71.6	0	0.00
9/30/2019 22:00	1	4	2	4	ND	6	4	ND	4.2	352	7	37.9	65.9	0	0.00
9/30/2019 23:00	0	2	1	4	ND	5	5	ND	4.4	357	7	38.3	63.5	0	0.00
10/1/2019 0:00	1	2	3	6	ND	6	8	ND	4.4	0	10	37.9	63.2	0	0.00

APPENDIX C: ALARM EVENT DOCUMENTATION
QUARTER 3, 2019

MDINITE MINE TSP ALARM RECORD (Page 1 of 2)

Date: July 12, 2019 **Alarm Start Time:** 1315 hours

Prepared By: Val Ehrendreich **Organization:** AJAX

A. TSP Readings, in µg/m^3 for Alarming E-Samplers, ppb (enter N/A if sampler not alarming) – See Comments

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	287	N/A

B. Meteorological Conditions at Time of Alarm

Wind Speed (mph)	Wind Dir. (degrees)	Temperature (°F)	Relative Humidity (%)	Solar Radiation (W/m^2)	Daily Precipitation (inches)
5.2	166	78	33	780	0

Was fog present? No **Was precipitation occurring?** No

C. Describe Activity in Vicinity of Alarming Sampler(s) and Identify Remediation Area. Note Whether Site was Visited, and if Photos and/or Video Clips were Taken.

Sampler ES-7 was moved to a new location immediately in front of the site's hydration station in the northeast corner of Area 5. The monitor was too close to incoming haul truck/truck traffic within the vicinity of the hydration station (less than 50 feet). No photos were taken. Valerie Ehrendreich (CQAO) with AJAX was on site at the time of the alarm and recommended moving the monitor back to its original location in the southwest corner of Area 5, a minimum of 150 feet away from incoming haul truck traffic.

D. Indicate Alarm Causes Below as Appropriate (Check Box)

On-Site Activities	Weather Conditions	Off-Site Activity	Malfunction
X			

E. Describe Actions Requested of Construction Contractor, and Time Completed.

Sampler ES-7 was moved back to its original location in the southwest corner of Area 5 by 1400 hours. There were no more warnings/alarms after moving the sampler.

MIDNITE MINE TSP ALARM RECORD (Page 2 of 2)

F. Record of Alarm Notifications (Should be Made in Order Shown)

Name	Organization / Title	Notification Method	Time Notified
Jed Thompson	Stantec Field Engineer	Email/Text	1315
Val Ehrendreich	AJAX CQAO	Email/Text	1315
Don Chavez Matt Scott	Envirocon Construction Superintendents	Email/Text and Radio	1315

Note: All of the above individuals are notified by email/text automatically initiated by the Bison dust monitoring system.

G. TSP Readings Following Actions, ppb (enter N/A if sampler was not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Evaluate Effectiveness of Response Actions (if not effective, state why)

Moving the monitor out of the vicinity of the hydration station and away from incoming haul truck traffic eliminated notifications due to highly localized generation of dust.

I. Other Comments / Observations

None

MDINITE MINE TSP ALARM RECORD (Page 1 of 2)

Start Date: August 2, 2019 **Alarm Start Time:** 2335 hours

End Date: August 3, 2019 **Alarm End Time:** 0300 hours

Prepared By: Valerie Ehrendreich **Organization:** AJAX

A. TSP Readings, in µg/m^3 for Alarming E-Samplers, ppb (enter N/A if sampler not alarming) – See Comments

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
286 - 432	272 - 633	N/A	N/A	N/A	285 - 667	296 - 913	N/A

B. Meteorological Conditions at Time of Alarm

Wind Speed (mph)	Wind Dir. (degrees)	Temperature (°F)	Relative Humidity (%)	Solar Radiation (W/m^2)	Daily Precipitation (inches)
3	288	70	34	0	0

Was fog present? No **Was smoke present?** Yes **Was precipitation occurring?** No

C. Describe Activity in Vicinity of Alarming Sampler(s) and Identify Remediation Area. Note Whether Site was Visited, and if Photos and/or Video Clips were Taken.

Smoke from local area fires (primarily the Williams Flats Fire on the Colville Indian Reservation Fire located to the North of the site). The CQAO was not on site at the time.

D. Indicate Alarm Causes Below as Appropriate (Check Box)

On-Site Activities	Weather Conditions	Off-Site Activity	Malfunction
		Local Area Fires	

E. Describe Actions Requested of Construction Contractor, and Time Completed.

The first warning alert was received on 8/2/2019 at 2320 hours. All dust monitors were turned off on 8/3/2019 between 0200 and 0300 hours.

MIDNITE MINE TSP ALARM RECORD (Page 2 of 2)

F. Record of Alarm Notifications (Should be Made in Order Shown)

Name	Organization / Title	Notification Method	Time Notified
Val Ehrendreich	CQAO	Email and Text Messages	2335
Tony Cameron Don Chavez Matt Scott Joe Krezeneskey	Construction Superintendents	Text messages	2335
Jed Thompson	Field Engineer	Email and Text Messages	2335

Note: All of the above individuals are notified by email/text initiated by the Bison dust monitoring system

G. TSP Readings Following Actions, ppb (enter N/A if sampler was not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Evaluate Effectiveness of Response Actions (if not effective, state why)

The alarms were turned off

I. Other Comments / Observations –

No pictures were taken for this event as this event occurred during the night shift.

MDINITE MINE TSP ALARM RECORD (Page 1 of 2)

Start Date: August 5, 2019 **Alarm Start Time:** 1255 hours

Prepared By: Valerie Ehrendreich **Organization:** AJAX

A. TSP Readings, in µg/m^3 for Alarming E-Samplers, ppb (enter N/A if sampler not alarming) – See Comments

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
264 - 367	266 - 465	N/A	N/A	N/A	266 - 612	262 - 843	N/A

B. Meteorological Conditions at Time of Alarm

Wind Speed (mph)	Wind Dir. (degrees)	Temperature (°F)	Relative Humidity (%)	Solar Radiation (W/m^2)	Daily Precipitation (inches)
4.2	217	86	18	710	0

Was fog present? No **Was smoke present?** Yes **Was precipitation occurring?** No

C. Describe Activity in Vicinity of Alarming Sampler(s) and Identify Remediation Area. Note Whether Site was Visited, and if Photos and/or Video Clips were Taken.

Smoke from local area fires, primarily the Williams Flats Fire on the Colville Indian Reservation located to the North of the site.

D. Indicate Alarm Causes Below as Appropriate (Check Box)

On-Site Activities	Weather Conditions	Off-Site Activity	Malfunction
		Local Area Fires	

E. Describe Actions Requested of Construction Contractor, and Time Completed.

The first warning alert was received at 1240 hours. All dust monitors were turned off between 1400 and 1500 hours.

MIDNITE MINE TSP ALARM RECORD (Page 2 of 2)

F. Record of Alarm Notifications (Should be Made in Order Shown)

Name	Organization / Title	Notification Method	Time Notified
Val Ehrendreich	CQAO	Email and Text Messages	1255
Tony Cameron Don Chavez Matt Scott Joe Krezenesky	Construction Superintendent	Text messages	1255
Jed Thompson	Field Engineer	Email and Text Messages	1255

Note: All of the above individuals are notified by email/text initiated by the Bison dust monitoring system

G. TSP Readings Following Actions, ppb (enter N/A if sampler was not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Evaluate Effectiveness of Response Actions (if not effective, state why)

The alarms were turned off

I. Other Comments / Observations

See attached photos

Looking to the Southeast from the Top of Pit 4

Looking South from the Top of Pit 4

MDINITE MINE TSP ALARM RECORD (Page 1 of 2)

Start Date: August 6, 2019 **Alarm Start Time:** 1250 hours

Prepared By: Valerie Ehrendreich **Organization:** AJAX

A. TSP Readings, in µg/m^3 for Alarming E-Samplers, ppb (enter N/A if sampler not alarming) – See Comments

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	264 - 268	N/A	N/A	N/A	N/A	N/A	N/A

B. Meteorological Conditions at Time of Alarm

Wind Speed (mph)	Wind Dir. (degrees)	Temperature (°F)	Relative Humidity (%)	Solar Radiation (W/m^2)	Daily Precipitation (inches)
4.2	218	89	21	769	0

Was fog present? No **Was Smoke present?** Yes **Was precipitation occurring?** No

C. Describe Activity in Vicinity of Alarming Sampler(s) and Identify Remediation Area. Note Whether Site was Visited, and if Photos and/or Video Clips were Taken.
Smoke from local area fires - primarily the Williams Flats Fire on the Colville Indian Reservation located to the North of the site.

D. Indicate Alarm Causes Below as Appropriate (Check Box)

On-Site Activities	Weather Conditions	Off-Site Activity	Malfunction
		Local Area Fires	

E. Describe Actions Requested of Construction Contractor, and Time Completed.

The first warning alert was received at 1235 hours. Dust monitor ES-2 was the only monitor on at the time in order to gauge the effects of the local area fires on the dust monitoring system. The monitor was turned off at approximately 1600 hours to avoid additional warnings and alarms.

MIDNITE MINE TSP ALARM RECORD (Page 2 of 2)

F. Record of Alarm Notifications (Should be Made in Order Shown)

Name	Organization / Title	Notification Method	Time Notified
Val Ehrendreich	CQAO	Email and Text Messages	1250
Tony Cameron Matt Scott Don Chavez Joe Krezenesky	Construction Superintendents	Text messages	1250
Jed Thompson	Field Engineer	Email and Text Messages	1250

Note: All of the above individuals are notified by email/text initiated by the Bison dust monitoring system

G. TSP Readings Following Actions, ppb (enter N/A if sampler was not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Evaluate Effectiveness of Response Actions (if not effective, state why)

The alarms were turned off

I. Other Comments / Observations –

Visible smoke from local fires was present across the site to varying degrees throughout the day.

Looking to the South from the Top of Pit 4

Visible smoke across the site to varying degrees throughout the day

MDINITE MINE TSP ALARM RECORD (Page 1 of 2)

Start Date: August 7, 2019 **Alarm Start Time:** 1345 hours

Prepared By: Valerie Ehrendreich **Organization:** AJAX

A. TSP Readings, in µg/m^3 for Alarming E-Samplers, ppb (enter N/A if sampler not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	264 - 345	N/A

B. Meteorological Conditions at Time of Alarm

Wind Speed (mph)	Wind Dir. (degrees)	Temperature (°F)	Relative Humidity (%)	Solar Radiation (W/m^2)	Daily Precipitation (inches)
3.5	242	90	12	584	0

Was fog present? No **Was Smoke present?** Yes **Was precipitation occurring?** No

C. Describe Activity in Vicinity of Alarming Sampler(s) and Identify Remediation Area. Note Whether Site was Visited, and if Photos and/or Video Clips were Taken.
Smoke from local area fires - primarily from the Williams Flats Fire on the Colville Indian Reservation located to the North of the site.

D. Indicate Alarm Causes Below as Appropriate (Check Box)

On-Site Activities	Weather Conditions	Off-Site Activity	Malfunction
		Local Area Fires	

E. Describe Actions Requested of Construction Contractor, and Time Completed.

Dust monitor ES-2 was the only monitor on from 0600 hours to 1100 hours in order to monitor the effects from the ongoing local area fires on the dust monitoring sytem. Because all readings for ES-2 were below the TSP action level, all the dust monitors were turned on. The first warning alert was received at 1315 hours on ES-7. The decision was by the CQAO to turn all dust monitors off at approximately 1500 hours to avoid additional warnings and alarms.

MIDNITE MINE TSP ALARM RECORD (Page 2 of 2)

F. Record of Alarm Notifications (Should be Made in Order Shown)

Name	Organization / Title	Notification Method	Time Notified
Val Ehrendreich	CQAO	Email and Text Messages	1345
Tony Cameron Matt Scott Don Chavez Joe Krezenesky	Construction Superintendents	Text messages	1345
Jed Thompson	Field Engineer	Email and Text Messages	1345

Note: All of the above individuals are notified by email/text initiated by the Bison dust monitoring system

G. TSP Readings Following Actions, ppb (enter N/A if sampler was not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Evaluate Effectiveness of Response Actions (if not effective, state why)

The alarms were turned off

I. Other Comments / Observations –

Visible smoke from local fires was present across the site to varying degrees throughout the day.

Looking to the Southwest from Area 5

Visible smoke across the site to varying degrees throughout the day

Looking to the South from the Top of Pit 4

Looking South from the West SWRP

MDINITE MINE TSP ALARM RECORD (Page 1 of 2)

Start Date: August 8, 2019 **Alarm Start Time:** 2010 hours

Prepared By: Valerie Ehrendreich **Organization:** AJAX

A. TSP Readings, in µg/m^3 for Alarming E-Samplers, ppb (enter N/A if sampler not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	284 - 447	N/A	N/A	N/A	N/A	N/A	N/A

B. Meteorological Conditions at Time of Alarm

Wind Speed (mph)	Wind Dir. (degrees)	Temperature (°F)	Relative Humidity (%)	Solar Radiation (W/m^2)	Daily Precipitation (inches)
3.7	274	84	23	15	0

Was fog present? No **Was Smoke present?** Yes **Was precipitation occurring?** No

C. Describe Activity in Vicinity of Alarming Sampler(s) and Identify Remediation Area. Note Whether Site was Visited, and if Photos and/or Video Clips were Taken.
Smoke from local area fires - primarily from the Williams Flats Fire on the Colville Indian Reservation located to the North of the site.

D. Indicate Alarm Causes Below as Appropriate (Check Box)

On-Site Activities	Weather Conditions	Off-Site Activity	Malfunction
		Local Area Fires	

E. Describe Actions Requested of Construction Contractor, and Time Completed.

Dust monitor ES-2 was the only monitor on from 0600 hours to 2035 hours in order to monitor the effects from the ongoing local area fires on the dust monitoring system. Most of the readings for ES-2 were below the TSP action level until 2010 hours. The first warning alert was received at 1955 hours. ES-2 was turned off at 2035 hours to avoid additional warnings and alarms.

MIDNITE MINE TSP ALARM RECORD (Page 2 of 2)

F. Record of Alarm Notifications (Should be Made in Order Shown)

Name	Organization / Title	Notification Method	Time Notified
Val Ehrendreich	CQAO	Email and Text Messages	2010
Tony Cameron Matt Scott Don Chavez Joe Krezenesky	Construction Superintendents	Text messages	2010
Jed Thompson	Field Engineer	Email and Text Messages	2010

Note: All of the above individuals are notified by email/text initiated by the Bison dust monitoring system

G. TSP Readings Following Actions, ppb (enter N/A if sampler was not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Evaluate Effectiveness of Response Actions (if not effective, state why)

The alarms were turned off

I. Other Comments / Observations –

Visible smoke from local fires was present across the site to varying degrees throughout the day.

Looking to the South from the Top of Pit 4

Visible smoke across the site to varying degrees throughout the day

Looking to the South from the Southern CSZ

Looking South from Area 5

MDINITE MINE TSP ALARM RECORD (Page 1 of 2)

Date: September 9, 2019 **Alarm Start Time:** 0735 hours

Prepared By: Valerie Ehrendreich **Organization:** AJAX

A. TSP Readings, in µg/m^3 for Alarming E-Samplers, ppb (enter N/A if sampler not alarming) – See Comments

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
266	N/A	N/A	N/A	N/A	N/A	N/A	N/A

B. Meteorological Conditions at Time of Alarm

Wind Speed (mph)	Wind Dir. (degrees)	Temperature (°F)	Relative Humidity (%)	Solar Radiation (W/m^2)	Daily Precipitation (inches)
2.1	80	51	98	27	1.29

Was fog present? Yes **Was precipitation occurring?** Yes

C. Describe Activity in Vicinity of Alarming Sampler(s) and Identify Remediation Area. Note Whether Site was Visited, and if Photos and/or Video Clips were Taken.

Smoke rose to site from controlled burns being performed outside the perimeter of the Site. See attached photo taken by Tony Cameron, Envirocon Superintendent on shift at the time of the alarm.

D. Indicate Alarm Causes Below as Appropriate (Check Box)

On-Site Activities	Weather Conditions	Off-Site Activity	Malfunction
	Fog with Rain		

E. Describe Actions Requested of Construction Contractor, and Time Completed.

Contacted Tony Cameron when warnings from dust monitor ES-1 began at approximately 0725 hours. Discussed conditions at Site with Tony at about 0800 hours. Tony informed that the Site was extremely foggy (see attached photos) on site, especially at the top of Pit 4 where ES-1 is located. All dust monitors were turned off to avoid additional warnings and alarms.

MIDNITE MINE TSP ALARM RECORD (Page 2 of 2)

F. Record of Alarm Notifications (Should be Made in Order Shown)

Name	Organization / Title	Notification Method	Time Notified
Val Ehrendreich	CQAO	Email	0735
Tony Cameron	Construction Superintendent	Phone call and text messages	0735
Jed Thompson	Field Engineer	Email	0735

Note: All of the above are notified by email/text initiated by the Bison dust monitoring system

G. TSP Readings Following Actions, ppb (enter N/A if sampler was not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Evaluate Effectiveness of Response Actions (if not effective, state why)

The alarms were turned off.

I. Other Comments / Observations –

The Site was shut down for both day and night shift due to adverse weather and road conditions.

Looking toward the top of Pit 4.

Looking toward the west from Trailer Village
Photos of foggy conditions provided by Envirocon Superintendent and AJAX CQAO

MDINITE MINE TSP ALARM RECORD (Page 1 of 2)

Date: September 16, 2019 **Alarm Start Time:** 1210 hours

Prepared By: Valerie Ehrendreich **Organization:** AJAX

A. TSP Readings, in µg/m^3 for Alarming E-Samplers, ppb (enter N/A if sampler not alarming) – See Comments

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
274	N/A	N/A	N/A	N/A	276	N/A	N/A

B. Meteorological Conditions at Time of Alarm

Wind Speed (mph)	Wind Dir. (degrees)	Temperature (°F)	Relative Humidity (%)	Solar Radiation (W/m^2)	Daily Precipitation (inches)
3.5	175	49	95	75	0.19

Was fog present? Yes **Was precipitation occurring?** Yes

C. Describe Activity in Vicinity of Alarming Sampler(s) and Identify Remediation Area. Note Whether Site was Visited, and if Photos and/or Video Clips were Taken.
Foggy conditions with rain on site especially around Pit 4. No photos were taken – unsafe road conditions at the time of the alarm (wet, muddy and slick).

D. Indicate Alarm Causes Below as Appropriate (Check Box)

On-Site Activities	Weather Conditions	Off-Site Activity	Malfunction
	Fog and Rain		

E. Describe Actions Requested of Construction Contractor, and Time Completed.

Contacted Tony Cameron when the first alert warning from dust monitors ES-1and ES-6 began to appear at approximately 1155-1200 hours. Discussed conditions at Site with Tony at about 1215 hours. It was apparent that there was rain and fog across the site. ES-1 and ES-6 monitors were turned off by 1300 hours. All other dust monitors were turned off to avoid additional alarms.

MIDNITE MINE TSP ALARM RECORD (Page 2 of 2)

F. Record of Alarm Notifications (Should be Made in Order Shown)

Name	Organization / Title	Notification Method	Time Notified
Val Ehrendreich	CQAO	Email and Text Messages	1210
Tony Cameron Don Chavez Matt Scott Joe Krezenesky	Construction Superintendent	Text messages	1210
Jed Thompson	Field Engineer	Email and Text Messages	1210

Note: All of the above individuals are notified by email/text initiated by the Bison dust monitoring system

G. TSP Readings Following Actions, ppb (enter N/A if sampler was not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Evaluate Effectiveness of Response Actions (if not effective, state why)

The alarms were turned off.

I. Other Comments / Observations –

None

MDINITE MINE TSP ALARM RECORD (Page 1 of 2)

Date: September 17, 2019 **Alarm Start Time:** 0835 hours

Prepared By: Valerie Ehrendreich **Organization:** AJAX

A. TSP Readings, in µg/m^3 for Alarming E-Samplers, ppb (enter N/A if sampler not alarming) – See Comments

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
510	N/A	N/A	N/A	N/A	N/A	N/A	N/A

B. Meteorological Conditions at Time of Alarm

Wind Speed (mph)	Wind Dir. (degrees)	Temperature (°F)	Relative Humidity (%)	Solar Radiation (W/m^2)	Daily Precipitation (inches)
3.7	100	46	97	41	0.18

Was fog present? Yes **Was precipitation occurring?** No

C. Describe Activity in Vicinity of Alarming Sampler(s) and Identify Remediation Area. Note Whether Site was Visited, and if Photos and/or Video Clips were Taken.
Foggy conditions on site especially at the top of Pit 4. See attached photos taken by Valerie Ehrendreich, AJAX CQAO on shift at the time of the alarm.

D. Indicate Alarm Causes Below as Appropriate (Check Box)

On-Site Activities	Weather Conditions	Off-Site Activity	Malfunction
	Fog		

E. Describe Actions Requested of Construction Contractor, and Time Completed.

Contacted Tony Cameron when the first warning alert from dust monitor ES-1 was received at 0830 hours. Discussed conditions at Site with Tony at about 0845 hours. It was apparent that there was a layer of thick fog across the site. ES-1 was turned off at approximately 0935. All other dust monitors had been turned off on 9/16/2019 due to similar site conditions. Sampler ES-1, however, had inadvertently been left on.

MIDNITE MINE TSP ALARM RECORD (Page 2 of 2)

F. Record of Alarm Notifications (Should be Made in Order Shown)

Name	Organization / Title	Notification Method	Time Notified
Val Ehrendreich	CQAO	Email and Text Messages	0835
Tony Cameron Don Chavez Matt Scott Joe Krezenesky	Construction Superintendents	Text messages	0835
Jed Thompson	Field Engineer	Email and Text Messages	0835

Note: All of the above individuals are notified by email/text initiated by the Bison dust monitoring system

G. TSP Readings Following Actions, ppb (enter N/A if sampler was not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Evaluate Effectiveness of Response Actions (if not effective, state why)

The alarms were turned off.

I. Other Comments / Observations –

None

Looking to the west from Trailer Village

Looking to the northwest from Trailer Village

MDINITE MINE TSP ALARM RECORD (Page 1 of 2)

Date: September 23, 2019 **Alarm Start Time:** 0455 hours

Prepared By: Valerie Ehrendreich **Organization:** AJAX

A. TSP Readings, in µg/m^3 for Alarming E-Samplers, ppb (enter N/A if sampler not alarming) – See Comments

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
314	N/A	N/A	N/A	N/A	N/A	N/A	N/A

B. Meteorological Conditions at Time of Alarm

Wind Speed (mph)	Wind Dir. (degrees)	Temperature (°F)	Relative Humidity (%)	Solar Radiation (W/m^2)	Daily Precipitation (inches)
1.1	202	50	96	0.023	0

Was fog present? Yes **Was precipitation occurring?** No

C. Describe Activity in Vicinity of Alarming Sampler(s) and Identify Remediation Area. Note Whether Site was Visited, and if Photos and/or Video Clips were Taken.
Foggy conditions on site, especially at the top of Pit 4. See attached photos taken by Valerie Ehrendreich, AJAX CQAO.

D. Indicate Alarm Causes Below as Appropriate (Check Box)

On-Site Activities	Weather Conditions	Off-Site Activity	Malfunction
	Fog		

E. Describe Actions Requested of Construction Contractor, and Time Completed.

Discussed conditions at the Site with Tony Cameroun and Don Chavez (Envirocon Superintendents) on site at the Plan of the Day (POD) Meeting at approximately 0600 hours. It was apparent that there was a thick layer of thick fog across the site (see attached photos). ES-1 was turned off just before 0600 hours. Dust monitors ES-1, ES-2, ES-3 and ES-4 had been left on over the weekend but ES-2, ES-3 and ES-4 did not alarm at that time. The decision was made to turn off all monitors to avoid receiving false warnings and alarms. All samplers were turned on again at approximately 1300 hours after the fog dissipated.

MIDNITE MINE TSP ALARM RECORD (Page 2 of 2)

F. Record of Alarm Notifications (Should be Made in Order Shown)

Name	Organization / Title	Notification Method	Time Notified
Val Ehrendreich	AJAX CQAO	Email and Text Messages; POD Mtg.	0455 and 0600
Tony Cameron Don Chavez	Envirocon Construction Superintendents	Email and Text Messages; POD Mtg.	0455 and 0600
Jed Thompson	Stantec Field Engineer	Email and Text Messages; POD Mtg.	0455

Note: All of the above individuals are notified by email/text automatically initiated by the Bison dust monitoring system

G. TSP Readings Following Actions, ppb (enter N/A if sampler was not alarming)

ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	ES-7	ES-8
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Evaluate Effectiveness of Response Actions (if not effective, state why)

The alarms were turned off.

I. Other Comments / Observations –

None

Looking to the north toward Pit 4 from the Lower Decon Shack

Looking to the north toward Pit 4 from the South Pond Area

APPENDIX D: MONTHLY WIND ROSES
QUARTER 3, 2019

Figure D-1. Monthly Wind Rose, DMC Midnite Mine Site, WA

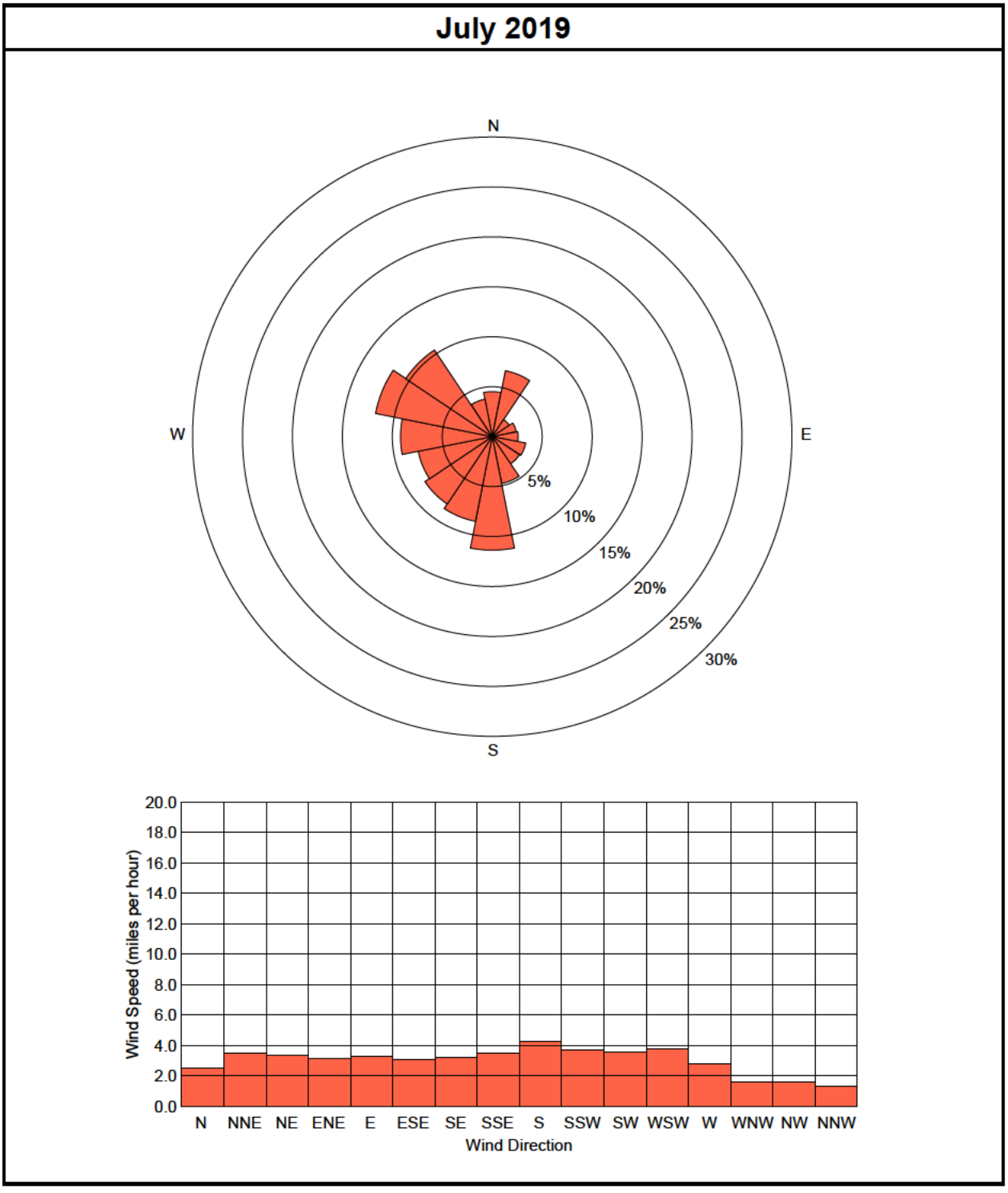


Table D-1. Monthly Wind Rose Summary, DMC Midnite Mine Site, WA

July 2019																	
	Direction>>>	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
Wind Speed (miles per hour)	0.1 - 2.0	2.4	1.2	0.4	0.8	0.5	0.7	0.5	1.0	0.4	1.0	1.1	1.1	4.2	8.8	7.6	3.0	34.8
	2.1 - 4.0	1.2	3.0	1.2	0.7	1.2	2.0	1.8	1.9	3.9	3.4	3.9	2.6	2.6	2.6	2.4	0.8	35.3
	4.1 - 6.0	0.7	1.9	0.1	0.8	0.8	0.7	1.0	1.8	6.3	4.2	3.0	3.7	1.9	0.4	0.3	0.0	27.4
	6.1 - 8.0	0.0	0.5	0.3	0.1	0.0	0.0	0.0	0.1	0.7	0.0	0.0	0.1	0.4	0.0	0.0	0.0	2.3
	8.1 - 10.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	10.1 - 12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	12.1 - 14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	14.1 - 16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16.1 - 18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	18.1 - 20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	20.1 - 22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	22.1 - 24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	24.1 - 26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	26.1 - 28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	28.1 - 30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	30.1 - 32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	32.1 - 34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34.1 - 36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	36.1 - 38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	38.1 - 40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	> 40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Calm																	0.0
	Total	4.5	6.7	2.0	2.4	2.6	3.4	3.3	4.8	11.3	8.6	8.0	7.5	9.1	11.8	10.3	3.8	100.0
	Average Speed	2.5	3.5	3.4	3.1	3.3	3.1	3.2	3.5	4.3	3.7	3.6	3.8	2.8	1.6	1.6	1.3	3.0

Figure D-2. Monthly Wind Rose, DMC Midnite Mine Site, WA

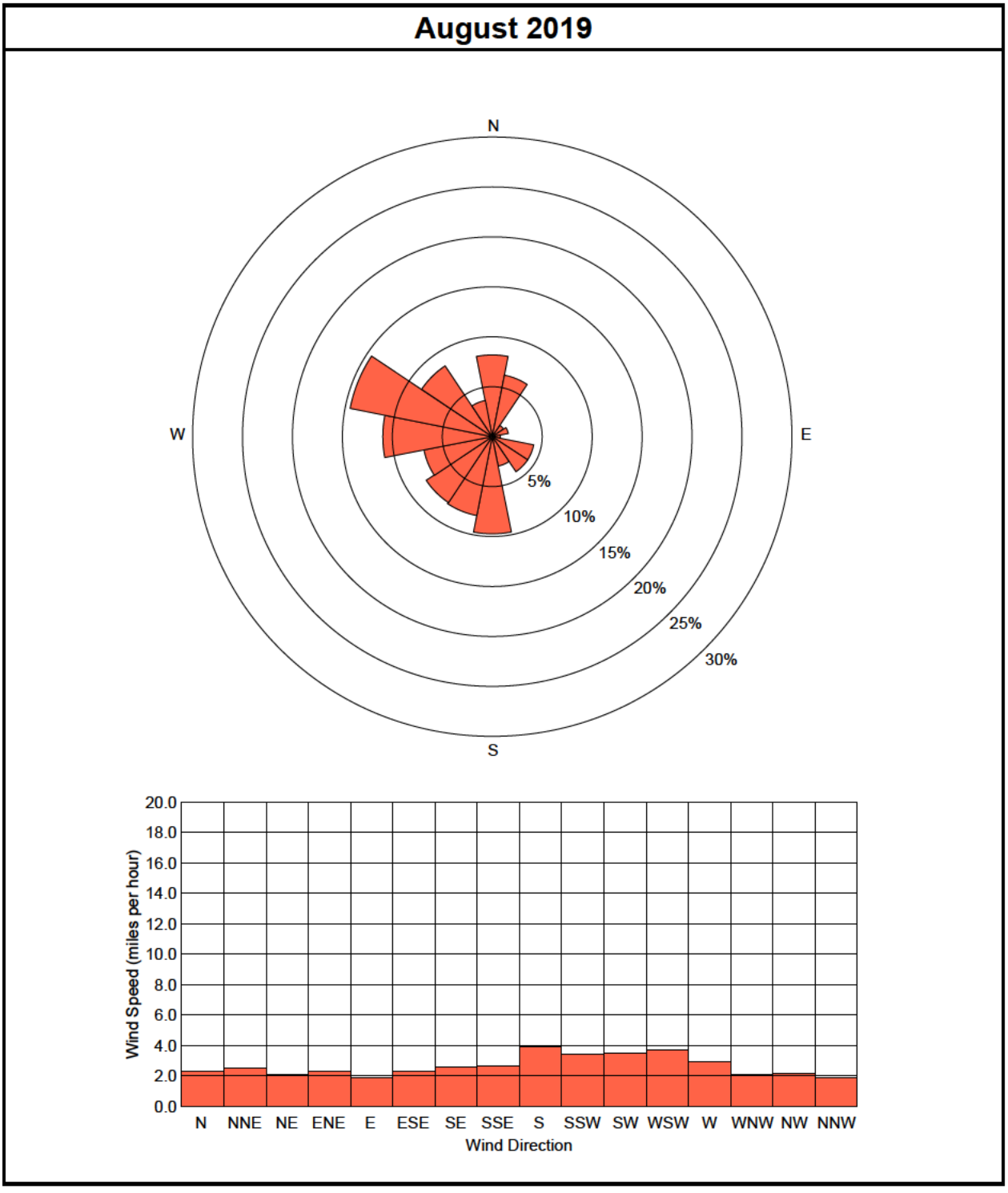


Table D-2. Monthly Wind Rose Summary, DMC Midnite Mine Site, WA

August 2019																	
	Direction>>>	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
Wind Speed (miles per hour)	0.1 - 2.0	4.3	2.6	0.5	0.7	0.5	1.8	1.4	1.1	0.9	1.1	0.9	1.4	3.4	7.7	4.6	2.7	35.7
	2.1 - 4.0	2.2	2.7	0.7	0.9	0.1	2.0	2.4	1.6	3.4	4.6	3.7	2.6	4.2	4.9	3.3	0.8	40.2
	4.1 - 6.0	1.4	0.9	0.1	0.0	0.1	0.4	0.4	0.3	4.9	2.3	3.3	2.8	3.1	1.8	0.4	0.1	22.4
	6.1 - 8.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.1	0.1	0.0	0.1	0.0	1.1
	8.1 - 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	10.1 - 12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	12.1 - 14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	14.1 - 16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16.1 - 18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	18.1 - 20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	20.1 - 22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	22.1 - 24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	24.1 - 26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	26.1 - 28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	28.1 - 30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	30.1 - 32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	32.1 - 34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34.1 - 36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	36.1 - 38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	38.1 - 40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	> 40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Calm																	0.7
	Total	8.1	6.2	1.4	1.6	0.8	4.2	4.2	3.0	9.6	8.0	7.9	6.9	10.9	14.4	8.4	3.7	100.0
	Average Speed	2.3	2.5	2.1	2.3	1.9	2.3	2.6	2.7	3.9	3.4	3.5	3.7	2.9	2.1	2.2	1.9	2.8

Figure D-3. Monthly Wind Rose, DMC Midnite Mine Site, WA

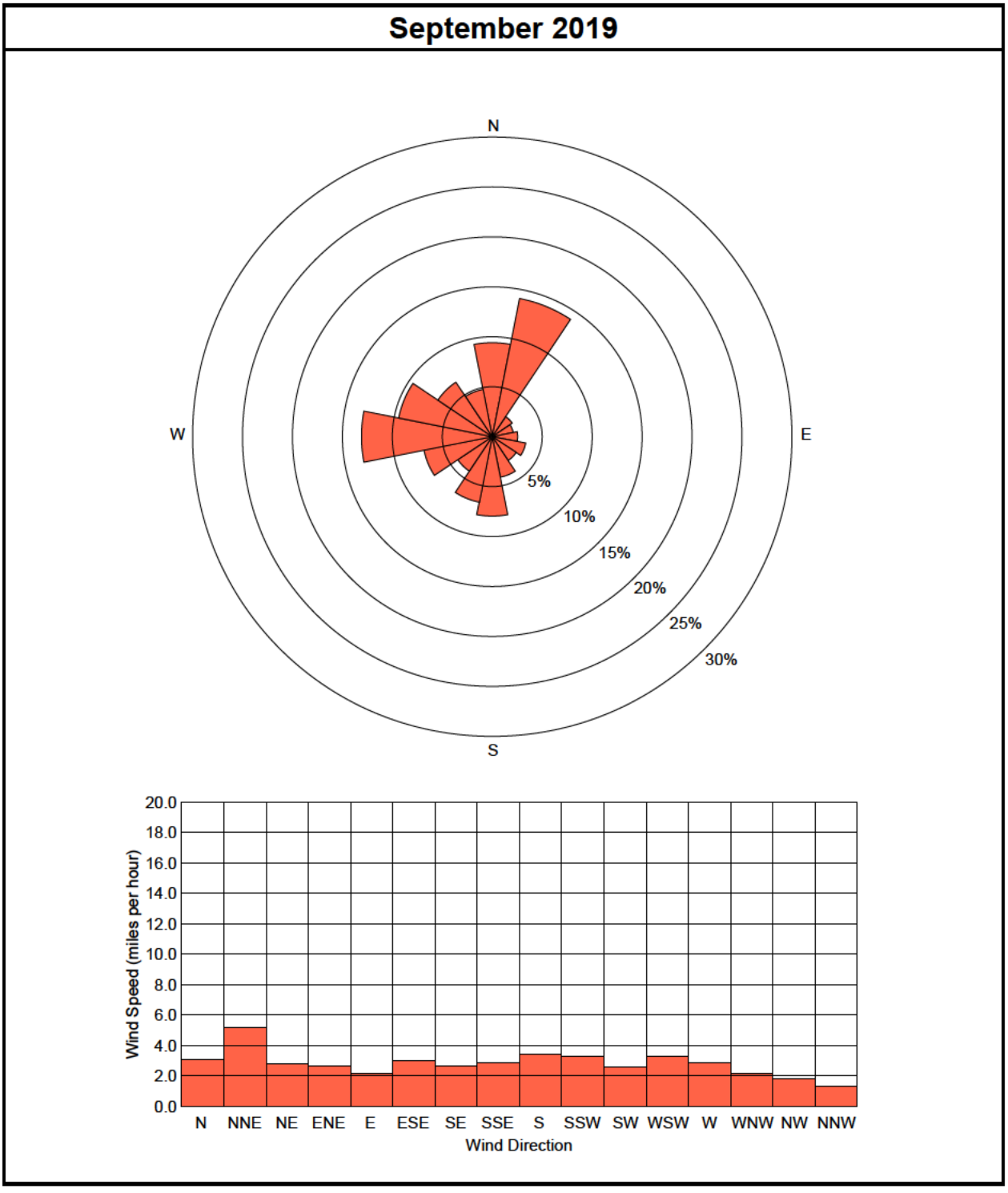


Table D-3. Monthly Wind Rose Summary, DMC Midnite Mine Site, WA

September 2019																	
	Direction>>>	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
Wind Speed (miles per hour)	0.1 - 2.0	3.5	2.1	0.4	1.0	1.6	1.0	0.7	1.4	1.3	1.4	1.4	1.8	4.7	5.8	4.5	3.8	36.4
	2.1 - 4.0	3.2	3.5	1.4	0.8	0.7	2.1	2.0	2.1	4.1	2.5	2.3	2.5	4.9	2.7	1.6	0.8	37.4
	4.1 - 6.0	1.1	3.7	0.6	0.3	0.3	0.1	0.1	0.6	2.5	2.7	0.3	2.5	3.2	0.7	0.1	0.1	19.1
	6.1 - 8.0	0.8	1.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.1	0.0	3.0
	8.1 - 10.0	0.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	3.2
	10.1 - 12.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
	12.1 - 14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	14.1 - 16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16.1 - 18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	18.1 - 20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	20.1 - 22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	22.1 - 24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	24.1 - 26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	26.1 - 28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	28.1 - 30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	30.1 - 32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	32.1 - 34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34.1 - 36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	36.1 - 38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	38.1 - 40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	> 40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Calm																	0.0
	Total	9.3	14.0	2.4	2.1	2.5	3.4	2.8	4.1	7.9	6.6	4.1	6.9	13.0	9.5	6.5	4.8	100.0
	Average Speed	3.1	5.2	2.8	2.6	2.2	3.0	2.7	2.9	3.4	3.3	2.6	3.3	2.9	2.2	1.8	1.3	3.1

APPENDIX E: E-SAMPLER CALIBRATIONS
QUARTER 3, 2019

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: North Boundary

DATE/TIME: 7-25-2019 @ 0644-0705 PST

SAMPLER S/N: ES-10 W15097

RADIO NO.: R-1 X17505

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR +1 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 19.6 TETRA CAL (Tf) 18.6

Difference = (Sampler Ind. - Tf) 1.0 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 89896 Pa

x 0.007501 = SAMPLER 674.3 mmHg

TETRA CAL 674.5 mmHg

Difference = (Sampler - Tetra Cal) = -0.2 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.00

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.0 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Southeast Boundary - near Red Bloodpool shack

DATE/TIME: 7-25-2019 @ 1407-1417 PST

SAMPLER S/N: ES-2 U11510

RADIO NO.: R-2 X17506

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 28.4 TETRA CAL (Tf) 29.5

Difference = (Sampler Ind. - Tf) -1.1 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91843 Pa

x 0.007501 = SAMPLER 688.9 mmHg

TETRA CAL 691.5 mmHg

Difference = (Sampler - Tetra Cal) = -2.6 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 1.98

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 1.0 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: West Boundary

DATE/TIME: 7-25-2019 @ 0845-0900 PST

SAMPLER S/N: ES-3 U11511

RADIO NO.: R-3 U14301

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR + 1 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 19.7 TETRA CAL (Tf) 20.9

Difference = (Sampler Ind. - Tf) -1.2 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91720 Pa

x 0.007501 = SAMPLER 688.0 mmHg

TETRA CAL 688.0 mmHg

Difference = (Sampler - Tetra Cal) = 0.0 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.03

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) -1.5 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Turnout by Stockpile 4

DATE/TIME: 7-25-2019 @ 0805-0818 PST

SAMPLER S/N: ES-4 U11512

RADIO NO.: R-4 U14302

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass x Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 26.0 TETRA CAL (Tf) 25.5

Difference = (Sampler Ind. - Tf) 0.5 °C

Pass x Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 92271 Pa

x 0.007501 = SAMPLER 692.1 mmHg

TETRA CAL 691.5 mmHg

Difference = (Sampler - Tetra Cal) = 0.6 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 1.99

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.5 %

Pass x Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Decon Shack - Not in Use

DATE/TIME: 7-25-2019 @ 1308-1320 PST

SAMPLER S/N: ES-5 U11838

RADIO NO.: R-5 U14303

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR +1 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass x Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 31.2 TETRA CAL (Tf) 30.4

Difference = (Sampler Ind. - Tf) 0.8 °C

Pass x Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 92095 Pa

x 0.007501 = SAMPLER 690.8 mmHg

TETRA CAL 691.0 mmHg

Difference = (Sampler - Tetra Cal) = -0.2 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 1.96

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 2.0 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: At large tanks above decon shack

DATE/TIME: 7-25-2019 @ 1236-1250 PST

SAMPLER S/N: ES-6 U11839

RADIO NO.: R-6 U14304

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 31.1 TETRA CAL (Tf) 31.7

Difference = (Sampler Ind. - Tf) -0.6 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91994 Pa

x 0.007501 = SAMPLER 690.0 mmHg

TETRA CAL 690.0 mmHg

Difference = (Sampler - Tetra Cal) = 0.0 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 1.85

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 8.1 %

Pass Fail x

COMMENTS: Adjusted flow to 2.01 LPM

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Area 5 - SW Corner

DATE/TIME: 7-25-2019 @ 0716-0737 PST

SAMPLER S/N: ES-7 U11837

RADIO NO.: R-7 U14305

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR +2 min CORRECTED? Y

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 24.5 TETRA CAL (Tf) 23.4

Difference = (Sampler Ind. - Tf) 1.1 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91216 Pa

x 0.007501 = SAMPLER 684.2 mmHg

TETRA CAL 684.0 mmHg

Difference = (Sampler - Tetra Cal) = 0.2 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 1.85

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 8.1 %

Pass Fail X

COMMENTS: Adjusted flow to 1.98 LPM

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Decon Shack - Not in Use

DATE/TIME: 7-25-2019 @ 1258-1310 PST

SAMPLER S/N: ES-8 U11835

RADIO NO.: R8 U14306

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass x Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 30.9 TETRA CAL (Tf) 30.9

Difference = (Sampler Ind. - Tf) 0.0 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 92095 Pa

x 0.007501 = SAMPLER 690.8 mmHg

TETRA CAL 691.0 mmHg

Difference = (Sampler - Tetra Cal) = -0.2 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.00

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.0 %

Pass x Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: North Boundary

DATE/TIME: 8-20-2019 @ 0746-0801 PST

SAMPLER S/N: ES-10 W15097

RADIO NO.: R-1 X17505

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 23.2 TETRA CAL (Tf) 22.6

Difference = (Sampler Ind. - Tf) 0.6 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 89544 Pa

x 0.007501 = SAMPLER 671.7 mmHg

TETRA CAL 671.5 mmHg

Difference = (Sampler - Tetra Cal) = 0.2 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 1.98

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 1.0 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Southeast Boundary - near Red Bloodpool shack

DATE/TIME: 8-20-2019 @ 1341-1354 PST

SAMPLER S/N: ES-2 U11510

RADIO NO.: R-2 X17506

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 30.3 TETRA CAL (Tf) 31.8

Difference = (Sampler Ind. - Tf) -1.5 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91043 Pa

x 0.007501 = SAMPLER 682.9 mmHg

TETRA CAL 688.5 mmHg

Difference = (Sampler - Tetra Cal) = -5.6 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.00

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.0 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: West Boundary

DATE/TIME: 8-20-2019 @ 0732-0747 PST

SAMPLER S/N: ES-3 U11511

RADIO NO.: R-3 U14301

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR + 1 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 20.6 TETRA CAL (Tf) 21.3

Difference = (Sampler Ind. - Tf) -0.7 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91330 Pa

x 0.007501 = SAMPLER 685.1 mmHg

TETRA CAL 685.0 mmHg

Difference = (Sampler - Tetra Cal) = 0.1 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.04

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) -2.0 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: E of Temporarily Impacted Soil Stockpile (TISS)

DATE/TIME: 8-20-2019 @ 0930-0948 MST

SAMPLER S/N: ES-4 U11512

RADIO NO.: R-4 U14302

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass x Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 30.7 TETRA CAL (Tf) 27.8

Difference = (Sampler Ind. - Tf) 2.9 °C

Pass Fail x

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91490 Pa

x 0.007501 = SAMPLER 686.3 mmHg

TETRA CAL 686.0 mmHg

Difference = (Sampler - Tetra Cal) = 0.3 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 1.98

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 1.0 %

Pass x Fail

COMMENTS: Adjusted temperature to match Tetra Cal.
Rechecked flow, it had changed to 2.00 LPM.

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Decon Shack - Not in Use

DATE/TIME: 8-20-2019 @ 0754-0810 MST

SAMPLER S/N: ES-5 U11838

RADIO NO.: R-5 U14303

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR +2 min CORRECTED? Y

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass x Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 27.2 TETRA CAL (Tf) 26.5

Difference = (Sampler Ind. - Tf) 0.7 °C

Pass x Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91802 Pa

x 0.007501 = SAMPLER 688.6 mmHg

TETRA CAL 688.5 mmHg

Difference = (Sampler - Tetra Cal) = 0.1 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 1.96

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 2.0 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: E Side of Pit 4

DATE/TIME: 8-20-2019 @ 0708-0722 PST

SAMPLER S/N: ES-6 U11839

RADIO NO.: R-6 U14304

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 23.3 TETRA CAL (Tf) 22.7

Difference = (Sampler Ind. - Tf) 0.6 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 90275 Pa

x 0.007501 = SAMPLER 677.2 mmHg

TETRA CAL 677.0 mmHg

Difference = (Sampler - Tetra Cal) = 0.2 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.03

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) -1.5 %

Pass x Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Area 5 - SW Corner

DATE/TIME: 8-20-2019 @ 0916-0932 MST

SAMPLER S/N: ES-7 U11837

RADIO NO.: R-7 U14305

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? Y

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 28.1 TETRA CAL (Tf) 27.7

Difference = (Sampler Ind. - Tf) 0.4 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 90845 Pa

x 0.007501 = SAMPLER 681.4 mmHg

TETRA CAL 681.0 mmHg

Difference = (Sampler - Tetra Cal) = 0.4 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.10

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) -4.8 %

Pass Fail X

COMMENTS: Adjusted flow to 2.04 LPM

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Decon Shack - Not in Use

DATE/TIME: 8-20-2019 @ 0815-0835 MST

SAMPLER S/N: ES-8 U11835

RADIO NO.: R8 U14306

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Steve Heck

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass x Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 26.9 TETRA CAL (Tf) 25.8

Difference = (Sampler Ind. - Tf) 1.1 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91783 Pa

x 0.007501 = SAMPLER 688.5 mmHg

TETRA CAL 688.5 mmHg

Difference = (Sampler - Tetra Cal) = 0.0 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.00

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.0 %

Pass x Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: North Boundary

DATE/TIME: 9-11-2019 @ 0617-0630 PST

SAMPLER S/N: ES-10 W15097

RADIO NO.: R-1 X17505

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Mike Williamson

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 12.3 TETRA CAL (Tf) 11.9

Difference = (Sampler Ind. - Tf) 0.4 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 89681 Pa

x 0.007501 = SAMPLER 672.7 mmHg

TETRA CAL 672.5 mmHg

Difference = (Sampler - Tetra Cal) = 0.2 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.00

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.0 %

Pass X Fail

COMMENTS: Pump might be getting weak, it had a hard time initiating the leak test and was strained when checking flow rate.

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Southeast Boundary - near Red Bloodpool shack

DATE/TIME: 9-11-2019 @ 0933-0945 PST

SAMPLER S/N: ES-2 U11510

RADIO NO.: R-2 X17506

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Mike Williamson

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR +1 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 18.9 TETRA CAL (Tf) 19.0

Difference = (Sampler Ind. - Tf) -0.1 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91843 Pa

x 0.007501 = SAMPLER 688.9 mmHg

TETRA CAL 692.5 mmHg

Difference = (Sampler - Tetra Cal) = -3.6 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.00

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.0 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: West Boundary

DATE/TIME: 9-11-2019 @ 1151-1203 PST

SAMPLER S/N: ES-3 U11511

RADIO NO.: R-3 U14301

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Mike Williamson

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR + 1 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 24.1 TETRA CAL (Tf) 24.3

Difference = (Sampler Ind. - Tf) -0.2 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91681 Pa

x 0.007501 = SAMPLER 687.7 mmHg

TETRA CAL 687.5 mmHg

Difference = (Sampler - Tetra Cal) = 0.2 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.03

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) -1.5 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Turnout by Stockpile 4

DATE/TIME: 9-11-2019 @ 1207-1319 PST

SAMPLER S/N: ES-4 U11512

RADIO NO.: R-4 U14302

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Mike Williamson

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR +1 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass x Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 19.3 TETRA CAL (Tf) 21.3

Difference = (Sampler Ind. - Tf) -2.0 °C

Pass x Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91861 Pa

x 0.007501 = SAMPLER 689.0 mmHg

TETRA CAL 688.5 mmHg

Difference = (Sampler - Tetra Cal) = 0.5 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.00

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.0 %

Pass x Fail

COMMENTS: Audited ES-4 between 1207-1214 but the sampler was offline untill 1319 for the installation of the new solar panel and battery bank.

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Decon Shack - Not in Use

DATE/TIME: 9-11-2019 @ 0905-0920 PST

SAMPLER S/N: ES-5 U11838

RADIO NO.: R-5 U14303

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Mike Williamson

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass x Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 23.4 TETRA CAL (Tf) 24.2

Difference = (Sampler Ind. - Tf) -0.8 °C

Pass x Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 92134 Pa

x 0.007501 = SAMPLER 691.1 mmHg

TETRA CAL 691.0 mmHg

Difference = (Sampler - Tetra Cal) = 0.1 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.00

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.0 %

Pass X Fail

COMMENTS:

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: East of Pit 4 and west of access road to observation deck - halfway between Area 5 and North Boundary

DATE/TIME: 9-11-2019 @ 0635-0824 PST

SAMPLER S/N: ES-6 U11839

RADIO NO.: R-6 U14304

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Mike Williamson

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 13.4 TETRA CAL (Tf) 13.1

Difference = (Sampler Ind. - Tf) 0.3 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 90431 Pa

x 0.007501 = SAMPLER 678.3 mmHg

TETRA CAL 678.0 mmHg

Difference = (Sampler - Tetra Cal) = 0.3 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.04

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) -2.0 %

Pass Fail x

COMMENTS: Moved ES-6 up the hillside between 25-50 feet away from the diesel powered light. Installed new solar panel and battery bank.

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Area 5 - SW Corner

DATE/TIME: 9-11-2019 @ 1030-1138 PST

SAMPLER S/N: ES-7 U11837

RADIO NO.: R-7 U14305

TSP CAL FACTOR: 8.05

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Mike Williamson

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? Y

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass X Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 21.7 TETRA CAL (Tf) 21.3

Difference = (Sampler Ind. - Tf) 0.4 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 91177 Pa

x 0.007501 = SAMPLER 683.9 mmHg

TETRA CAL 683.5 mmHg

Difference = (Sampler - Tetra Cal) = 0.4 mmHg

Pass X Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.00

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.0 %

Pass X Fail

COMMENTS: Moved ES-7 about 25 feet south of diesel light tower and installed new solar panel and battery bank.

FILTERS? N/A

MET ONE E-SAMPLER CALIBRATION CHECKS

LOCATION: Decon Shack - Not in Use

DATE/TIME: 9-11-2019 @ 0851-0902 PST

SAMPLER S/N: ES-8 U11835

RADIO NO.: R8 U14306

TSP CAL FACTOR: 4.92

SELF-TEST FREQ / RH: 1 hr / 35%

PERFORMED BY: Mike Williamson

TETRA CAL S/N: 149645

TIME CHECK (MST)

SAMPLER T ERROR 0 min CORRECTED? N

LEAK CHECK (LPM) (Allowable = ≤ 0.2 LPM)

SAMPLER 0.0 LPM

Pass x Fail

AMBIENT TEMP (°C) (Allowable error = ≤ +/- 2.0 °C)

SAMPLER IND. 19.1 TETRA CAL (Tf) 18.0

Difference = (Sampler Ind. - Tf) 1.1 °C

Pass X Fail

BAROMETRIC PRESSURE (mmHg) (Allowable error = ≤ +/- 10 mmHg)

SAMPLER 92134 Pa

x 0.007501 = SAMPLER 691.1 mmHg

TETRA CAL 691.0 mmHg

Difference = (Sampler - Tetra Cal) = 0.1 mmHg

Pass x Fail

FLOW RATE (LPM) (Allowable error = ≤ +/- 4.0%)

SAMPLER IND. 2.00 TETRA CAL 2.00

% Difference = 100 x (Sampler Ind.- Tetra Cal)/Tetra Cal) 0.0 %

Pass x Fail

COMMENTS:

FILTERS? N/A

APPENDIX F: METEOROLOGICAL CALIBRATIONS QUARTER 3, 2019

BISON ENGINEERING, INC.

Bison Engineering

Meteorological Parameters Calibration Form

Date: 07/25/2019 Start 0815 PST
Client: Newmont - Midnite Mine End 0945 PST
Site: Met Station
Performed By: Steve Heck

Temperature

Site Sensor: Met One 083E-1-35, Serial No. U12338
Sensor Height: 2.5 meters
Reference Std.: Fan-Aspirated Psychrometer

Reference Value °F	Site Value °F	Diff. °F	
69.1	70.5	1.4	Sunny, light wind

Wind Direction

Site Sensor: Met One 034B
Sensor Height: 3 meters
Design Locked Orientation: 180 deg. true north

Orientation (GPS sighting): 180
GPS coordinates of wind vane:
Lat 47 deg 56.474 min N, Long 118 deg 05.733 min W
GPS coordinates of sighting point:
Lat 47 deg 56.486 min N, Long 118 deg 05.733 min W
Sensor reading in locked position: 178.4

Linearity Fixture: Met One degree wheel

Wind Direction Linearity Checks

Setpoint	Rdg.	Diff
0	0.3	0.3
30	28.4	-1.6
60	57.6	-2.4
90	88.7	-1.3
120	117.4	-2.6
150	147.5	-2.5
180	179.2	-0.8
210	208.6	-1.4
240	239.4	-0.6
270	267.9	-2.1
300	298.0	-2.0
330	327.1	-2.9
	Max Diff	**-2.9**

Wind Speed

Site Sensor: Met One 034B
Sensor Height: 3 meters
Reference Std: Met One 300 rpm & 600 rpm synchronous motors

Synchronous motor checks

Known Value RPM	Known Value mph	DAS Value mph	DAS Diff. mph
0	0.00	0.00	0.00
300	18.49	18.50	0.01
600	36.38	36.37	-0.01

Relative Humidity

Site Sensor: Met One 083-1-35, Serial No. U12338
Sensor Height: 2.5 meters
Reference Std.: Assmann Psychrometer

BP = 27.01 in. Hg

Ref Dry-Bulb:	20.6	deg C
Ref Wet-Bulb	11.3	deg C
Ref RH:	32.7	%RH
Station RH:	34.0	%RH
Diff:	1.3	%RH

Precipitation

Site Sensor: Met One Model 375, S/N U13846
Sensor Height: ~0.5 meters

559 ml water added to 8-inch opening, 0.01 inches of precipitation per tip
Calibration is 8.24 ml per tip
Known value is 559 / 8.24 = 67.8 tips (so 67 full tips expected)

Unit registered 61 tips
% difference from expected = -9.0%

Solar Radiation

Time (PST)	Audit SR W/m2	Site SR W/m2	Diff. %
0933	740	721	-2.6
0943	767	743	-3.2
0942	779	756	-3.0

BISON
ENGINEERING, INC.

Bison Engineering

Meteorological Parameters Calibration Form

Date:	08/20/2019	Start 1045 PST
Client:	Newmont - Midnite Mine	End 1215 PST
Site:	Met Station	
Performed By:	Steve Heck	

Precipitation

Site Sensor:	Met One Model 375, S/N U13846
Sensor Height:	~0.5 meters

559 ml water added to 8-inch opening, 0.01 inches of precipitation per tip
Calibration is 8.24 ml per tip
Known value is 559 / 8.24 = 67.8 tips (so 67 full tips expected)
Adjusted calibration bucket set screws
Unit registered 65 tips
% difference from expected = -3.0%

APPENDIX G: METHOD 9 / METHOD 22 EMISSIONS TESTS QUARTER 3, 2019

The following pages present the results of all EPA Method 9 and Method 22 visible emissions tests, which are summarized in the table below in the order in which they appear:

Date	Process Description	Location	Evaluation Type
Sep 24	Kohler 17 KW Propane Generator	Blood Pool Building	Method 9
Sep 24	Kohler 7 KW Propane Generator	East Seep	Method 9
Sep 24	Kohler 7 KW Propane Generator	Central Drainage	Method 9
Sep 24	Cummins 60 KW Diesel Generator	Western Drainage	Method 9
Sep 26	Kohler 7 KW Propane Generator	Pollution Control Pond	Method 9
Sep 26	Kohler 7 KW Propane Generator	Decontamination Station	Method 9
Oct 2	Caterpillar 745C Haul Trucks Caterpillar 16M Grader	Active Construction Area	Method 22
Oct 2	Stockpile 4	Inactive Construction Area	Method 22
Oct 3	Gas and Diesel Fuel Transfer to Storage Tanks	Fuel Farm	Method 9
Oct 3	Kohler 7 KW Propane Generator	Wastewater Treatment Plant	Method 9
Oct 3	Multiquip 45 KW Diesel Generator	Pit 4 (Horizontal Dewatering)	Method 9

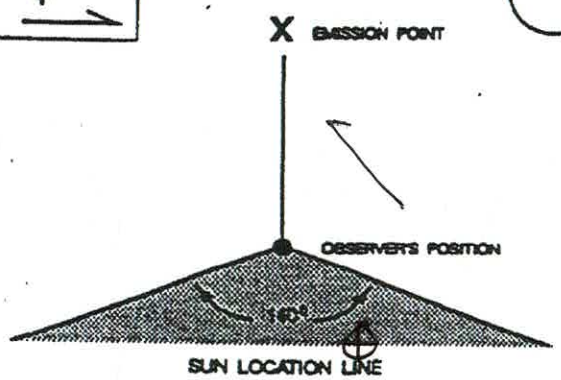
VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Stantec Consulting Inc.
LOCATION	Midnite Mine
LOCATION	Blood Pool Building
CITY	Wellpinit
STATE	WA
ZIP	99040
PROCESS EQUIPMENT	Kohler 17 KW Propane Generator
OPERATING MODE	Running
CONTROL EQUIPMENT	Muffler
OPERATING MODE	Running
DESCRIBE EMISSION POINT	1" Muffler
HEIGHT ABOVE GROUND LEVEL	1'
HEIGHT RELATIVE TO OBSERVER	START -4' END -4'
DISTANCE FROM OBSERVER	START 25' END 25'
DIRECTION FROM OBSERVER	START END
VERTICAL ANGLE TO PLUME	< 18°
HORIZONTAL ANGLE TO PLUME	< 18°
DESCRIBE EMISSIONS	START None END None
EMISSION COLOR	START NA END NA
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED	START NA END NA
DESCRIBE PLUME BACKGROUND	START Building END Building
BACKGROUND COLOR	START Red END Red
SKY CONDITIONS	START Sunny END Sunny
WIND SPEED	START 3.4 END 3.7
WIND DIRECTION	START 215° END 220°
AMBIENT TEMP	START 54°F END 56°F
WET BULB TEMP	
RH percent	77%

STACK WITH PLUME
SUN
WIND

SOURCE LAYOUT SKETCH

DRAW NORTH ARROW



OBSERVATION DATE	START TIME	END TIME
9/24/2019	0912	0942

SEC / MIN	0	15	30	45	COMMENTS
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7	0	0	0	0	
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25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

OBSERVER'S NAME (PRINT)	Justin Moyer
OBSERVER'S SIGNATURE	Justin Moyer
DATE	9/24/2019
ORGANIZATION	Stantec Consulting Inc
CERTIFIED BY	Smoke School, Inc.
DATE	9/20/2019

ADDITIONAL INFORMATION

CONTINUED ON VEO FORM NUMBER

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME: Stantec Consulting Inc.

LOCATION: Midnite Mine

LOCATION: East Seep

CITY: Wellpinit | STATE: WA | ZIP: 99040

PROCESS EQUIPMENT: Kohler 7 KW Propane Generater | OPERATING MODE: Running

CONTROL EQUIPMENT: Muffler | OPERATING MODE: Running

DESCRIBE EMISSION POINT: 1 inch muffler

HEIGHT ABOVE GROUND LEVEL: 1'

HEIGHT RELATIVE TO OBSERVER: START -4' END -4'

DISTANCE FROM OBSERVER: START 20' END 20'

DIRECTION FROM OBSERVER: START 225° END 225°

VERTICAL ANGLE TO PLUME: < 18°

HORIZONTAL ANGLE TO PLUME: < 18°

DESCRIBE EMISSIONS: START None END None

EMISSION COLOR: START NA END NA

IF WATER DROPLET PLUME: ATTACHED ☐ DETACHED ☐ NA ☑

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: START NA END NA

DESCRIBE PLUME BACKGROUND: START Building END Building

BACKGROUND COLOR: START Red END Red

SKY CONDITIONS: START Cloudy END Cloudy

WIND SPEED: START 4.2 END 4.2

WIND DIRECTION: START 243° END 244°

AMBIENT TEMP: START 57°F END 59°F

WET BULB TEMP:

RH percent: 71%

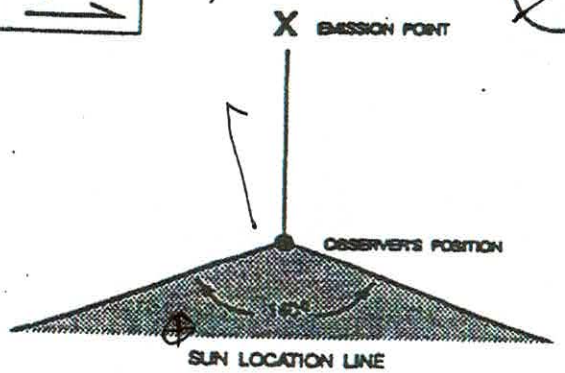
STACK WITH PLUME

SUN

WIND

SOURCE LAYOUT SKETCH

DRAW NORTH ARROW



ADDITIONAL INFORMATION

OBSERVATION DATE: 9/24/2019 | START TIME: 1004 | END TIME: 1034

SEC / MIN	0	15	30	45	COMMENTS
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3	0	0	0	0	
4	0	0	0	0	
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6	0	0	0	0	
7	0	0	0	0	
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13	0	0	0	0	
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20	0	0	0	0	
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23	0	0	0	0	
24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

OBSERVER'S NAME (PRINT): Justin Moyer

OBSERVER'S SIGNATURE: Justin Moyer | DATE: 9/24/2019

ORGANIZATION: Stantec Consulting Inc

CERTIFIED BY: Smoke School, Inc. | DATE: 9/20/2019

CONTINUED ON VEO FORM NUMBER

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME: Stantec Consulting Inc.
LOCATION: Midnite Mine
LOCATION: Central Drainage
CITY: Wellpinit | STATE: WA | ZIP: 99040

PROCESS EQUIPMENT: Kohler 7 KW Propane Generator | OPERATING MODE: Running
CONTROL EQUIPMENT: Muffler | OPERATING MODE: Running

DESCRIBE EMISSION POINT: 1 inch muffler

HEIGHT ABOVE GROUND LEVEL: 2'
HEIGHT RELATIVE TO OBSERVER: START -3' END -3'
DISTANCE FROM OBSERVER: START 30' END 30'
DIRECTION FROM OBSERVER: START 270° END 270°
VERTICAL ANGLE TO PLUME: < 18°
HORIZONTAL ANGLE TO PLUME: < 18°

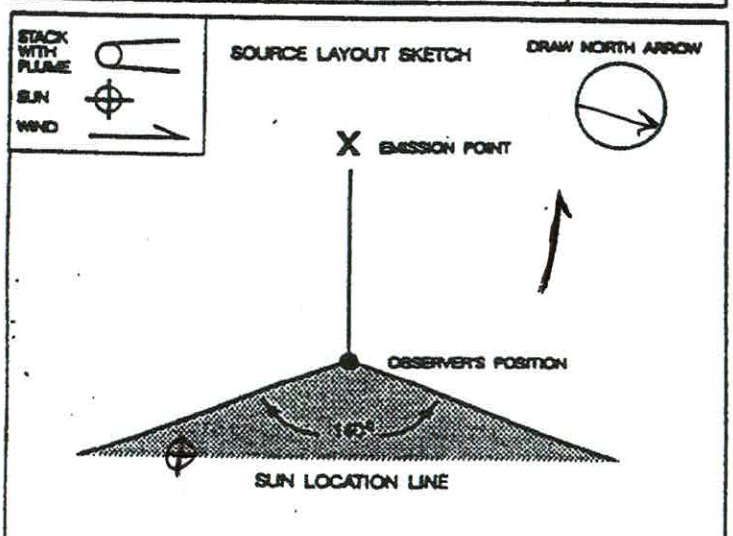
DESCRIBE EMISSIONS: START None END None
EMISSION COLOR: START NA END NA
IF WATER DROPLET PLUME: ATTACHED ☐ DETACHED ☐ NA ☒
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: START END

DESCRIBE PLUME BACKGROUND: START Building END Building
BACKGROUND COLOR: START Red END Red
SKY CONDITIONS: START END
WIND SPEED (mph): START 4.16 END 4.2
WIND DIRECTION: START 254° END 254°
AMBIENT TEMP: START 61 END 61
WET BULB TEMP:
RH percent: 62%

STACK WITH PLUME
SUN
WIND

SOURCE LAYOUT SKETCH

DRAW NORTH ARROW



ADDITIONAL INFORMATION

OBSERVATION DATE: 09/24/2019 | START TIME: 1047 | END TIME: 1117

SEC / MIN	0	15	30	45	COMMENTS
1					
2					
3					
4					
5					
6					
7					
8					
9					
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30					

OBSERVER'S NAME (PRINT): Justin Mayer
OBSERVER'S SIGNATURE: Justin Mayer | DATE: 09/24/2019
ORGANIZATION: Stantec Consulting, Inc.
CERTIFIED BY: Smoke School, Inc. | DATE: 09/20/2019

CONTINUED ON VEO FORM NUMBER

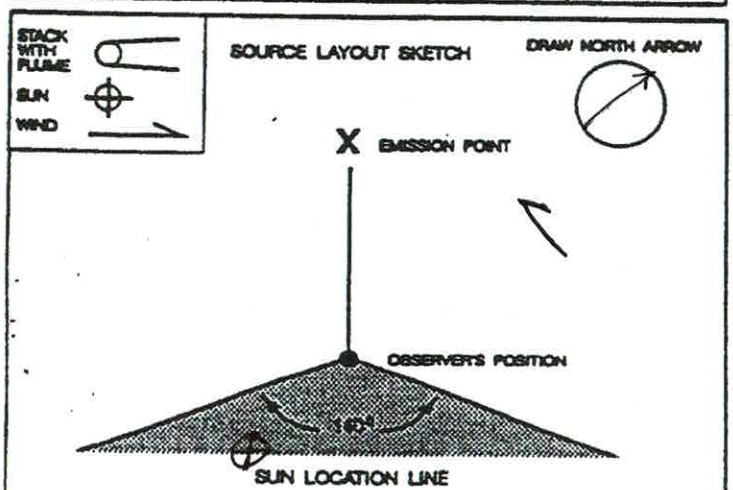
VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Stantec Consulting Inc.
LOCATION	Midnite Mine
LOCATION	Western Drainage
CITY	Wellpinit
STATE	WA
ZIP	99040
PROCESS EQUIPMENT	Cummins 60 kW Diesel Generator
OPERATING MODE	Running
CONTROL EQUIPMENT	Muffler
OPERATING MODE	Running
DESCRIBE EMISSION POINT	3" Exhaust Pipe
HEIGHT ABOVE GROUND LEVEL	6'
HEIGHT RELATIVE TO OBSERVER	START 1' END 1'
DISTANCE FROM OBSERVER	START 30' END 30'
DIRECTION FROM OBSERVER	START 265° END 265°
VERTICAL ANGLE TO PLUME	< 18°
HORIZONTAL ANGLE TO PLUME	< 18°
DESCRIBE EMISSIONS	START Exhaust END Exhaust
EMISSION COLOR	START Black END Black
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED	START END
DESCRIBE PLUME BACKGROUND	START Trees END Trees
BACKGROUND COLOR	START Green END Green
SKY CONDITIONS	START Sunny END Sunny
WIND SPEED (mph)	START 4.2 END 4.2
WIND DIRECTION	START 265° END 255°
AMBIENT TEMP	START 61°F END 61°F
WET BULB TEMP	
RH percent	62%

STACK WITH PLUME
SUN
WIND

SOURCE LAYOUT SKETCH

DRAW NORTH ARROW



OBSERVATION DATE	START TIME	END TIME
9/24/2019	1124	1154

SEC / MIN	0	15	30	45	COMMENTS
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3	5	5	5	5	
4	5	10	5	5	
5	5	5	5	5	
6	5	5	5	5	
7	0	0	0	0	
8	5	5	5	5	
9	5	5	5	0	
10	5	5	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	5	5	
15	5	5	5	5	
16	5	5	5	5	
17	10	0	0	0	
18	0	0	0	0	
19	0	0	0	0	
20	0	0	0	0	
21	0	0	0	0	
22	0	0	0	0	
23	0	0	0	0	
24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

OBSERVER'S NAME (PRINT)	Justin Moyer
OBSERVER'S SIGNATURE	Justin Moyer
DATE	9/24/2019
ORGANIZATION	Stantec Consulting Inc
CERTIFIED BY	Smoke School, Inc
DATE	9/20/2019

ADDITIONAL INFORMATION

CONTINUED ON VEO FORM NUMBER

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME: Stantec Consulting Inc.		
LOCATION: Midnite Mine		
LOCATION: Pollution Control Pond		
CITY: Wellpinit	STATE: WA	ZIP: 99040

PROCESS EQUIPMENT: Kohler 7KW Propane Generator	OPERATING MODE: Running
CONTROL EQUIPMENT: Muffler	OPERATING MODE: Running

DESCRIBE EMISSION POINT: 1" Muffler

HEIGHT ABOVE GROUND LEVEL: 2'	HEIGHT RELATIVE TO OBSERVER: START -3' END -3'
DISTANCE FROM OBSERVER: START 25' END 25'	DIRECTION FROM OBSERVER: START END
VERTICAL ANGLE TO PLUME: < 18°	HORIZONTAL ANGLE TO PLUME: < 18°

DESCRIBE EMISSIONS: START None END None

EMISSION COLOR: START NA END NA	IF WATER DROPLET PLUME: ATTACHED ☐ DETACHED ☐ NA ☑

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: START NA END NA

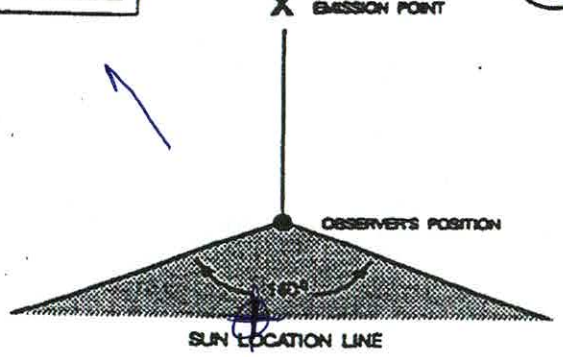
DESCRIBE PLUME BACKGROUND: START Building END Same

BACKGROUND COLOR: START Red END Red	SKY CONDITIONS: START Cloudy END Same	
WIND SPEED (MPH): START 1.45 END 1.45	WIND DIRECTION: START 230° END Same	
AMBIENT TEMP: START 54°F END 55°F	WET BULB TEMP:	RH percent: 76%

STACK WITH PLUME
SUN
WIND

SOURCE LAYOUT SKETCH

DRAW NORTH ARROW



ADDITIONAL INFORMATION

OBSERVATION DATE	START TIME	END TIME
9/26/2019	0855	0925

SEC / MIN	0	15	30	45	COMMENTS
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25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

OBSERVER'S NAME (PRINT): Justin Moyer	
OBSERVER'S SIGNATURE: Justin Moyer	DATE: 9/26/2019
ORGANIZATION: Stantec Consulting Inc.	
CERTIFIED BY: Smoke School, Inc.	DATE: 9/20/2019

CONTINUED ON VEO FORM NUMBER

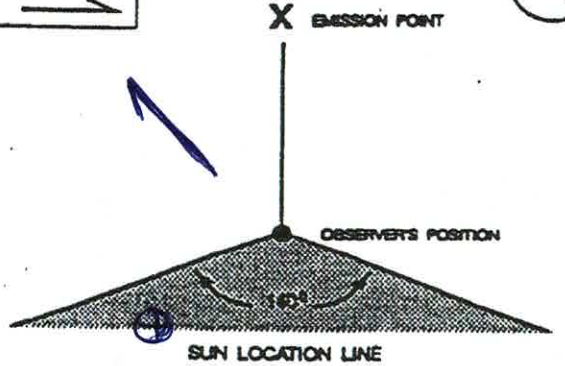
VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME	Stantec Consulting Inc.
LOCATION	Midnite Mine - Decon station
LOCATION	
CITY	Wellpinit
STATE	Wa
ZIP	99040
PROCESS EQUIPMENT	Kohler 7 kw Propane Generator
OPERATING MODE	Running
CONTROL EQUIPMENT	Muffler
OPERATING MODE	Running
DESCRIBE EMISSION POINT	1" Muffler
HEIGHT ABOVE GROUND LEVEL	~ 2'
HEIGHT RELATIVE TO OBSERVER	START -3' END -3'
DISTANCE FROM OBSERVER	START ~ 30' END ~ 30'
DIRECTION FROM OBSERVER	START END
VERTICAL ANGLE TO PLUME	< 18°
HORIZONTAL ANGLE TO PLUME	< 18°
DESCRIBE EMISSIONS	START None END None
EMISSION COLOR	START NA END NA
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☐ NA ☑
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED	START NA END NA
DESCRIBE PLUME BACKGROUND	START Brown Building END Same
BACKGROUND COLOR	START Brown END Brown
SKY CONDITIONS	START Cloudy END Cloudy
WIND SPEED (mph)	START 2.23 END 1.54
WIND DIRECTION	START 226 END 284
AMBIENT TEMP	START 53°F END 53°F
WET BULB TEMP	
RH percent	45%

STACK WITH PLUME
SUN
WIND

SOURCE LAYOUT SKETCH

DRAW NORTH ARROW



OBSERVATION DATE	START TIME	END TIME
9/26/2019	0935	1005

SEC / MIN	0	15	30	45	COMMENTS
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27					
28					
29					
30					

OBSERVER'S NAME (PRINT)	Justin Moyer
OBSERVER'S SIGNATURE	Justin Moyer
DATE	9/26/2019
ORGANIZATION	Stantec Consulting, Inc.
CERTIFIED BY	Smoke School, Inc.
DATE	09/20/2019

ADDITIONAL INFORMATION

CONTINUED ON VEO FORM NUMBER

Smoke School, Inc.

EPA Reference Method 9 Certification Card

Justin Moyer

Cert. No. (b) (6) Exp. Date 2020-03-20

Card Reader's Signature

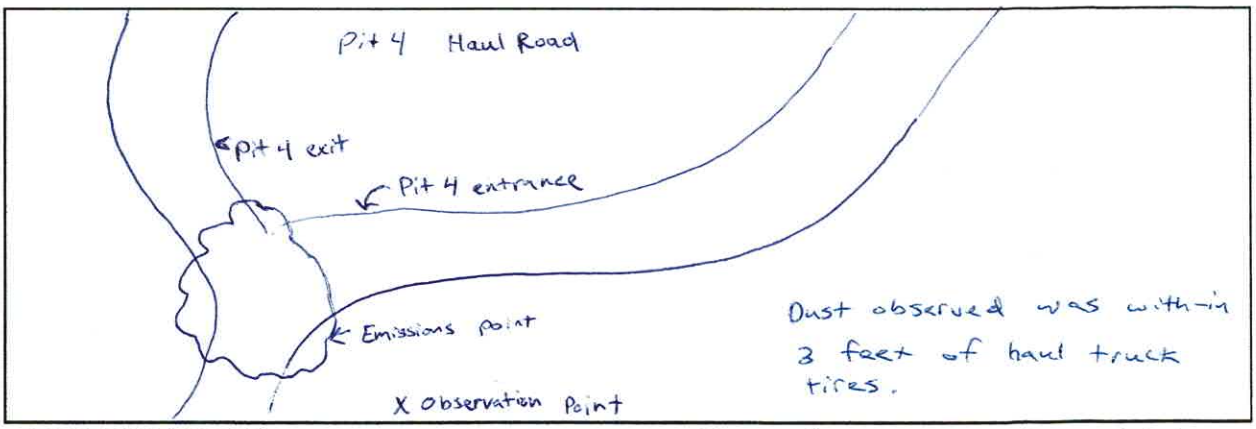
Garrett Bach

Smoke School Inc. President

FUGITIVE OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION

Company Newmont Goldcorp	Observer Justin Moger
Location Midnite Mine	Affiliation Stantec
Company Rep. David Lee	Date 10/02/2019
Sky Conditions Sunny	Wind Direction 140°
Precipitation None	Wind Speed 3 mph
Industry Construction	Process Unit Active construction Area, Caterpillar 745C Haul Trucks and Caterpillar 16M Grader

Sketch process unit: indicate observer position relative to source; indicate potential emission points and/or actual emission points.

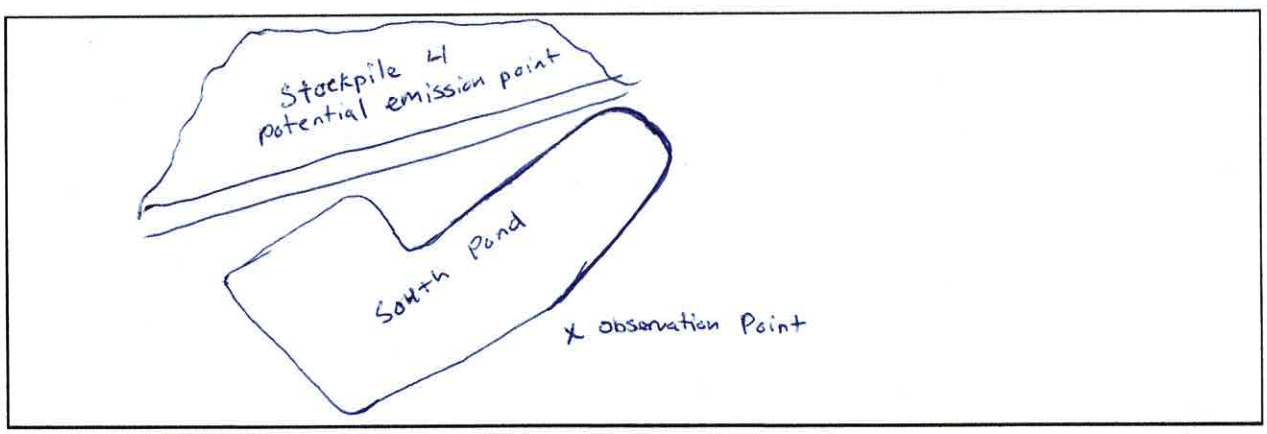


OBSERVATIONS	Clock Time	Observation period duration, minutes:seconds	Accumulated emission time, minutes:seconds
Begin Observation	1345	15:00	0:35 Non Fugitive
To complete this form, record the following:			
• the initial clock time			
• the total time of the observation (from SW1)			
• the total time of emissions (from SW2), and			
• the final clock time.			
For more details on recording this data and taking breaks, see #7 and #10 above.			
End Observation	1400	15:00	0:35

FUGITIVE OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION

Company Newmont Goldcorp	Observer Justin Moger
Location Midnite Mine	Affiliation Stantec
Company Rep. David Lee	Date 10/02/2019
Sky Conditions Sunny	Wind Direction 125°
Precipitation None	Wind Speed 3 mph
Industry Construction	Process Unit Inactive Construction Area

Sketch process unit: indicate observer position relative to source; indicate potential emission points and/or actual emission points.



OBSERVATIONS	Clock Time	Observation period duration, minutes:seconds	Accumulated emission time, minutes:seconds
Begin Observation	0905	20:00	0:00
To complete this form, record the following: • the initial clock time • the total time of the observation (from SW1) • the total time of emissions (from SW2), and • the final clock time. For more details on recording this data and taking breaks, see #7 and #10 above.			
End Observation	0925	20:00	0:00

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME: Stantec Consulting Inc		
LOCATION: Midnite Mine		
LOCATION: Fuel Farm		
CITY: Wellpinit	STATE: WA	ZIP: 99040
PROCESS EQUIPMENT: Fuel storage tanks		OPERATING MODE: Transfer
CONTROL EQUIPMENT: Vent		OPERATING MODE: Transfer

DESCRIBE EMISSION POINT: 3" Pipe (One for each tank)

HEIGHT ABOVE GROUND LEVEL: 5'	HEIGHT RELATIVE TO OBSERVER: START 0' END 0'
DISTANCE FROM OBSERVER: START 40' END 40'	DIRECTION FROM OBSERVER: START 150° END 150°
VERTICAL ANGLE TO PLUME: < 18°	HORIZONTAL ANGLE TO PLUME: < 18°

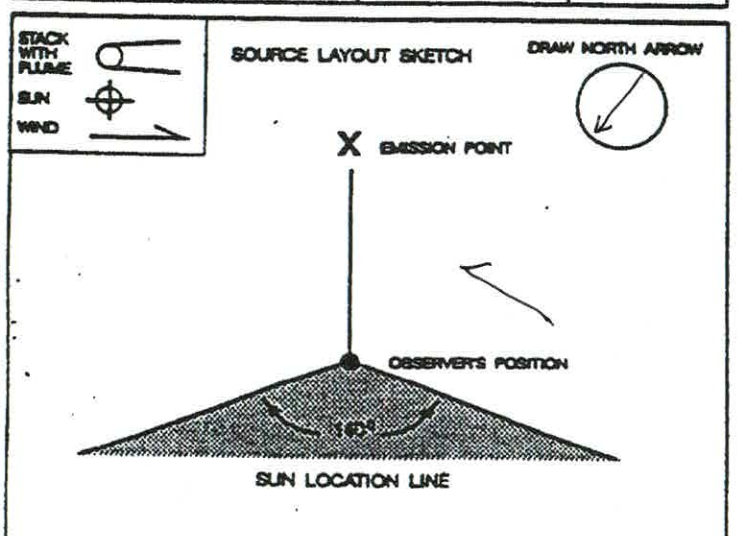
DESCRIBE EMISSIONS: START Fuel Vapor END Same

EMISSION COLOR: START Black END Black	IF WATER DROPLET PLUME: ATTACHED ☐ DETACHED ☐ NA ☑

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: START 1 ft above Vent END Same

DESCRIBE PLUME BACKGROUND: START Trees END Trees

BACKGROUND COLOR: START Green END Green	SKY CONDITIONS: START Cloudy END Cloudy	
WIND SPEED (mph): START 2 END 2	WIND DIRECTION: START 95° END 95°	
AMBIENT TEMP: START 48°F END 48°F	WET BULB TEMP:	RH percent: 64%



ADDITIONAL INFORMATION: Observed 1000 Gallon Diesel and 1,000 gallon Gasoline tanks

OBSERVATION DATE	START TIME	END TIME
10/03/2019	0950	1020

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	0	0	Gas transfer
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	0	
17	0	0	0	0	
18	5	5	5	5	Diesel transfer
19	5	5	5	5	
20	5	5	5	5	
21	5	5	5	5	
22	5	5	5	5	
23	5	5	5	5	
24	5	5	5	5	
25	5	5	0	5	
26	5	0	0	0	
27	0	0	0	0	No transfer
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

OBSERVER'S NAME (PRINT): Justin Moyer	
OBSERVER'S SIGNATURE: Justin Moyer	DATE: 10/03/2019
ORGANIZATION: Stantec Consulting Inc	
CERTIFIED BY: Smoke School, Inc.	DATE: 9/20/2019

CONTINUED ON VEO FORM NUMBER:

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME: Stantec Consulting Inc.

LOCATION: Midnite Mine

LOCATION: Waste Water Treatment Plant Backup Generater

CITY: Wellpinit | STATE: WA | ZIP: 99040

PROCESS EQUIPMENT: Kohler 7 KW Propane Generater | OPERATING MODE: Running

CONTROL EQUIPMENT: Muffler | OPERATING MODE: Running

DESCRIBE EMISSION POINT: 1 inch muffler

HEIGHT ABOVE GROUND LEVEL: 1 ft | HEIGHT RELATIVE TO OBSERVER: START -2' END -2'

DISTANCE FROM OBSERVER: START ~30' END ~30' | DIRECTION FROM OBSERVER: START 187° END 187°

VERTICAL ANGLE TO PLUME: < 18° | HORIZONTAL ANGLE TO PLUME: < 18°

DESCRIBE EMISSIONS: START Black END Black

EMISSION COLOR: START Black END Black | IF WATER DROPLET PLUME: ATTACHED ☐ DETACHED ☐ NA ☒

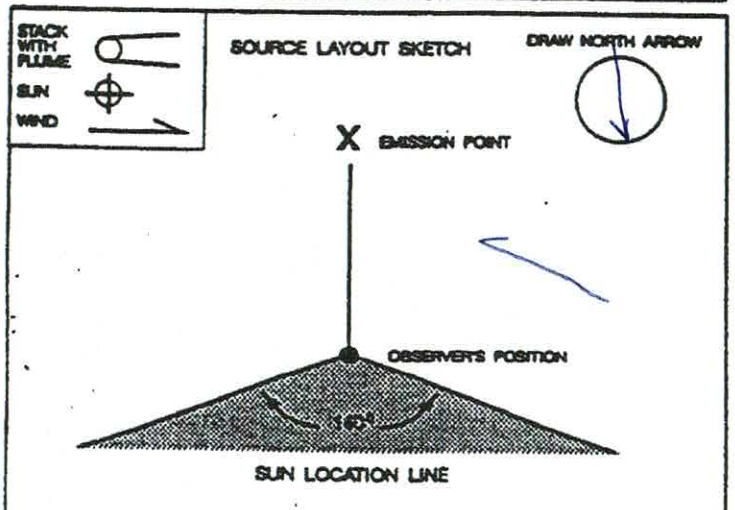
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: START END

DESCRIBE PLUME BACKGROUND: START Propane Tank END same

BACKGROUND COLOR: START Tan END Tan | SKY CONDITIONS: START Overkast END Overkast

WIND SPEED: START 2.65 END 2.65 | WIND DIRECTION: START 104 END 105

AMBIENT TEMP: START 64°F END 64°F | WET BULB TEMP: | RH percent: 64%



ADDITIONAL INFORMATION:

OBSERVATION DATE: 10/03/2019 | START TIME: 1025 | END TIME: 1055

SEC / MIN	0	15	30	45	COMMENTS
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2	5	5	5	5	
3	5	5	5	5	
4	5	5	5	5	
5	5	5	5	5	
6	5	5	5	5	
7	5	5	5	5	
8	5	5	5	5	
9	5	5	5	5	
10	5	5	5	5	
11	5	5	5	5	
12	5	5	5	5	
13	5	5	5	5	
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21	5	5	5	5	
22	5	5	5	5	
23	5	5	5	5	
24	5	5	5	5	
25	5	5	5	5	
26	5	5	5	5	
27	5	5	5	5	
28	5	5	5	5	
29	5	5	5	5	
30	5	5	5	5	

OBSERVER'S NAME (PRINT): Justin Moyer

OBSERVER'S SIGNATURE: Justin Moyer | DATE: 10/03/2019

ORGANIZATION: Stantec Consulting Inc.

CERTIFIED BY: Smoke School, Inc. | DATE: 9/20/2019

CONTINUED ON VEO FORM NUMBER:

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME: Stantec Consulting Inc.		
LOCATION: Midnite Mine		
LOCATION: Pit 4 - Horizontal De-watering Generator		
CITY: Wellpinit	STATE: WA	ZIP: 99040

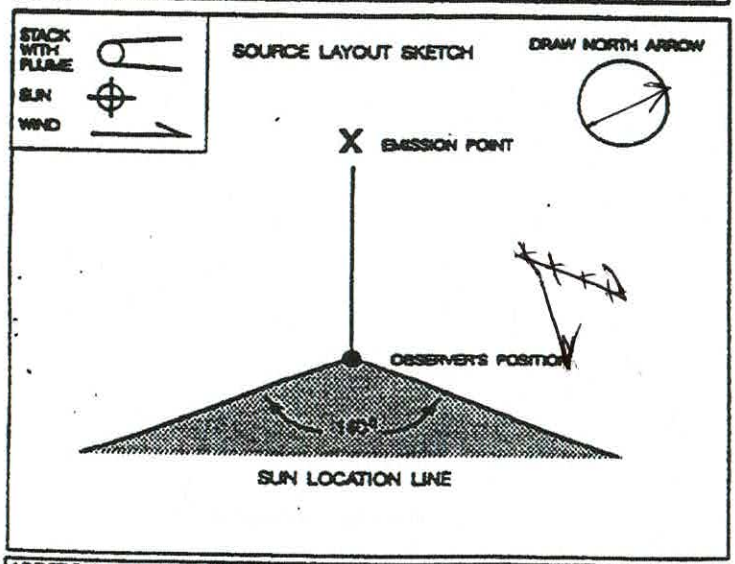
PROCESS EQUIPMENT: Multiquip 45 kW Diesel Generator	OPERATING MODE: Running
CONTROL EQUIPMENT: Diesel Particulate Filter	OPERATING MODE: Running

DESCRIBE EMISSION POINT: 2" Exhaust Pipe

HEIGHT ABOVE GROUND LEVEL: ~6'	HEIGHT RELATIVE TO OBSERVER: START ~3' END ~3'
DISTANCE FROM OBSERVER: START ~75' END ~75'	DIRECTION FROM OBSERVER: START 181° END 181°
VERTICAL ANGLE TO PLUME: < 18°	HORIZONTAL ANGLE TO PLUME: < 180

DESCRIBE EMISSIONS: START None	END None
EMISSION COLOR: START NA END NA	IF WATER DROPLET PLUME: ATTACHED ☐ DETACHED ☐ NA ☑
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: START	END

DESCRIBE PLUME BACKGROUND: START Dirt	END Dirt	
BACKGROUND COLOR: START Brown END Brown	SKY CONDITIONS: START Overcast END Same	
WIND SPEED (MPH): START 2.4 END 2.4	WIND DIRECTION: START 95° END 95°	
AMBIENT TEMP: START 49°F END 49°F	WET BULB TEMP:	RH percent: 61%



ADDITIONAL INFORMATION:

OBSERVATION DATE	START TIME	END TIME
10/03/2019	1325	1355

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
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11	0	0	0	0	
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26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

OBSERVER'S NAME (PRINT): Justin Mayer	
OBSERVER'S SIGNATURE: Justin Mayer	DATE: 10/03/2019
ORGANIZATION: Stantec Consulting Inc.	
CERTIFIED BY: Smoke School, Inc.	DATE: 09/20/2019

CONTINUED ON VEO FORM NUMBER:

Smoke School, Inc.

EPA Reference Method 9 Certification Card

Justin Moyer

Cert. No. (b) (6) Exp. Date 2020-03-20

Card Reader's Signature

Garrett Bach

Smoke School Inc. President